

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 10/4/2006  
 Art Unit: 1774 Phone Number 2-1523 Serial Number: 10/501,955  
 Mail Box and Bldg/Rm Location: REM 10C79 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Cover Film

Inventors (please provide full names): (See Attached Bib. Data Sheet)

Earliest Priority Filing Date: 2/5/2003

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

SCIENTIFIC REFERENCE BR  
Sci & Tech Inf. Ctr

OCT 5 RECD

Pat. & T.M Office

Please search the polymer  
described in claim 1.

<b>STAFF USE ONLY</b>		<b>Type of Search</b>	<b>Vendors and cost where applicable</b>
Searcher:	<u>EJ</u>	NA Sequence (#)	STN <u>\$ 591.30</u>
Searcher Phone #:	<u>10-11-06</u>	AA Sequence (#)	Dialog _____
Searcher Location:		Structure (#)	Questel/Orbit _____
Date Searcher Picked Up:		Bibliographic	<u>(and)</u> Dr. Link _____
Date Completed:		Litigation	Lexis/Nexis _____
Searcher Prep & Review Time:	<u>10</u>	Fulltext	Sequence Systems _____
Clerical Prep Time:		Patent Family	WWW/Internet _____
Online Time:	<u>125</u>	Other	Other (specify) _____

=> file reg  
FILE 'REGISTRY'  
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=> display history full 11-

FILE 'HCAPLUS'  
L1 4546 SEA KASHIWAGI ?/AU  
L2 143366 SEA TANAKA ?/AU  
L3 151 SEA L1 AND L2  
L4 526 SEA KASHIWAGI M?/AU  
L5 23697 SEA TANAKA K?/AU  
L6 4 SEA L4 AND L5  
SEL L6 1-2 RN

FILE 'REGISTRY'  
L7 2 SEA (110870-85-4/B1 OR 376-87-4/B1)

FILE 'HCA'  
L8 44 SEA L7  
L9 109344 SEA (ELECTROLUM!N? OR ORGANOLUM!N? OR (ELECTRO OR ORGANO  
OR ORG#) (2A)LUM!N? OR LIGHT? (2A)(EMIT? OR EMISSION?) OR  
EL OR E(W)L OR L(W)E(W)D OR OLED)/BI,AB OR LED/IT  
L10 QUE DECOMP? OR DISINTEGRA? OR DETERIOR? OR FRAGMENTAT?  
OR DISPROPORTION?  
L11 2 SEA L8 AND L9

FILE 'LCA'  
L12 7651 SEA (FILM? OR THINFILM? OR LAYER? OR OVERLAY? OR  
OVERLAID? OR LAMIN? OR LAMEL? OR SHEET? OR LEAF? OR  
FOIL? OR COAT? OR TOPCOAT? OR OVERCOAT? OR VENEER? OR  
SHEATH? OR COVER? OR ENVELOP? OR ENCAS? OR ENWRAP? OR  
OVERSPREAD?)/BI,AB

FILE 'HCA'  
L13 43993 SEA COVER? (2A) (FILM? OR THINFILM? OR LAYER? OR OVERLAY?  
OR OVERLAID? OR LAMIN? OR LAMEL? OR SHEET? OR COAT? OR  
TOPCOAT? OR OVERCOAT? OR VENEER? OR SHEATH? OR ENVELOP?  
OR ENCAS? OR ENWRAP? OR OVERSPREAD?)  
E COATINGS/CV  
L14 43471 SEA "COATING(S)"/CV OR COATINGS/CV  
E COATING PROCESS/CV  
L15 132043 SEA "COATING PROCESS"/CV  
E COATING MATERIALS/CV  
L16 282618 SEA "COATING MATERIALS"/CV

L17 3 SEA L8 AND (L13 OR L14 OR L15 OR L16)  
L18 7 SEA L8 AND L10  
L19 2 SEA L18 AND L12

## FILE 'REGISTRY'

E PERFLUOROPROPENE/CN  
L20 1 SEA PERFLUOROPROPENE/CN  
L21 1 SEA "PERFLUOROPROPENE POLYMER"/CN  
E PERFLUOROBUTENE/CN  
L22 1 SEA PERFLUOROBUTENE/CN  
L23 1 SEA "PERFLUOROBUTENE HOMOPOLYMER"/CN  
SEL L7 2 RN  
L24 1 SEA 376-87-4/BI  
E PERFLUOROPENTENE/CN  
E PENTENE, PERFLUORO-/CN  
E 1-PENTENE, PERFLUORO-/CN  
E PERFLUORO-1-PENTENE/CN  
E PERFLUORO-1-PENTENE POLYMER/CN  
E PERFLUORO-1-PENTENE HOMOPOLYMER/CN  
L25 0 SEA 376-87-4/CRN AND 1/NC  
E POLYPERFLUOROPENTENE/CN

## FILE 'HCA'

0 SEA POLYPERFLUOROPENTENE#  
L27 30 SEA PERFLUOROPENTENE#  
L28 0 SEA L27(2A) (POLYM? OR HOMOPOLYM?)

## FILE 'REGISTRY'

E 2-METHYLBUTENE, PERFLUORO-/CN  
E PERFLUORO-2-METHYLBUTENE/CN

## FILE 'HCA'

L29 6 SEA PERFLUOROMETHYLBUTENE#  
D L29 1-6 KWIC

## FILE 'REGISTRY'

E C5F10/MF  
L30 18 SEA C5F10/MF  
E 2-BUTENE, 1,1,1,2,4,4,4-HEPTAFLUORO-3- (TRIFLUOROMETHYL)  
L31 1 SEA "2-BUTENE, 1,1,1,2,4,4,4-HEPTAFLUORO-3- (TRIFLUOROMETHYL)- "/CN  
E 1-BUTENE, 1,1,3,3,4,4-HEPTAFLUORO-2- (TRIFLUOROMETHYL)  
L32 1 SEA "1-BUTENE, 1,1,3,3,4,4-HEPTAFLUORO-2- (TRIFLUOROMETHYL)- "/CN  
L33 2 SEA L31 OR L32  
SEL L33 1-2 RN  
EDIT E1-E2 /BI /CRN  
L34 0 SEA (41004-33-5/CRN OR 74408-47-2/CRN)

D L31 1 RN  
 E PERFLUOROCYCLOPROPENE/CN  
 L35 1 SEA "PERFLUOROCYCLOPROPYL CATION"/CN  
 D IDE  
 E CYCLOPROPENE, TRIFLUORO-/CN  
 E CYCLOPROPENE, PERFLUOROFLUORO-/CN  
 E CYCLOPROPENE, PERFLUORO-/CN  
 E CYCLOPROPENE, TETRAFLUORO-/CN  
 L36 1 SEA "CYCLOPROPENE, TETRAFLUORO-"/CN  
 E CYCLOPROPENE, TETRAFLUORO HOMOPOLYMER/CN  
 E CYCLOPROPENE, TETRAFLUORO-, HOMOPOLYMER/CN  
 D L36 RN  
 L37 12 SEA 19721-29-0/CRN  
 L38 0 SEA L37 AND 1/NC  
 E PERFLUOROCYCLOBUTENE/CN  
 L39 1 SEA PERFLUOROCYCLOBUTENE/CN  
 L40 1 SEA "PERFLUOROCYCLOBUTENE HOMOPOLYMER"/CN  
 E PERFLUOROCYCLOHEPTENE/CN  
 L41 1 SEA PERFLUOROCYCLOHEPTENE/CN  
 L42 1 SEA "PERFLUOROCYCLOHEXANE HOMOPOLYMER"/CN  
 E PERFLUOROCYCLOCHECTENE/CN  
 E CYCLOCHECTENE, PERFLUORO-/CN

FILE 'HCA'  
 L43 0 SEA PERFLUOROCYCLOCHECTENE#

FILE 'REGISTRY'  
 E C8F14/MF  
 L44 49 SEA C8F14/MF  
 E CYCLOCHECTENE, TETRADECAFLUORO-/CN  
 L45 1 SEA "CYCLOCHECTENE, TETRADECAFLUORO-"/CN  
 D RN  
 L46 0 SEA 57133-62-7/CRN  
 E 1-METHYLCYCLOBUTENE, PERFLUORO-/CN  
 E C5F8/MF  
 L47 23 SEA C5F8/MF  
 E CYCLOBUTENE, 1,3,3,4,4-PENTAFLUORO-2-(TRIFLUOROMETHYL)-  
 L48 1 SEA "CYCLOBUTENE, 1,3,3,4,4-PENTAFLUORO-2-(TRIFLUOROMETHYL)-"  
 L) -"/CN  
 D RN  
 L49 0 SEA 383-00-6/CRN  
 E CYCLOBUTENE, 1,2,3,3,4-PENTAFLUORO-4-(TRIFLUOROMETHYL)-  
 L50 1 SEA "CYCLOBUTENE, 1,2,3,3,4-PENTAFLUORO-4-(TRIFLUOROMETHYL)-"  
 L) -"/CN  
 D RN  
 L51 0 SEA 105311-66-8/CRN  
 E 1-METHYLCYCLOPENTENE, PERFLUORO-/CN  
 E C6F10/MF

L52 41 SEA C6F10/MF  
E CYCLOPENTENE, 1,2,3,4,4,5,5-HEPTAFLUORO-3-(TRIFLUOROMET  
L53 1 SEA "CYCLOPENTENE, 1,2,3,4,4,5,5-HEPTAFLUORO-3-(TRIFLUORO  
METHYL) -"/CN  
D RN  
L54 0 SEA 32340-08-2/CRN  
E CYCLOPENTENE, 1,3,3,4,4,5,5-HEPTAFLUORO-2-(TRIFLUOROMET  
L55 1 SEA "CYCLOPENTENE, 1,3,3,4,4,5,5-HEPTAFLUORO-2-(TRIFLUORO  
METHYL) -"/CN  
D RN  
L56 0 SEA 780-87-0/CRN  
L57 16 SEA L20 OR L21 OR L22 OR L23 OR L31 OR L32 OR L36 OR L39  
OR L40 OR L41 OR L42 OR L45 OR L48 OR L50 OR L55 OR L53  
SAV L57 GAR955/A

## FILE 'HCA'

L58 3540 SEA L57  
L59 16 SEA L58 AND L9  
L60 24 SEA L58 AND L13  
L61 0 SEA L60 AND L10  
L62 332 SEA L58 AND L10  
L63 47 SEA L62 AND L12  
L64 5 SEA L62 AND (L14 OR L15 OR L16)  
L65 9 SEA L11 OR L17 OR L19 OR L64  
L66 16 SEA L59 NOT L65  
L67 23 SEA L60 NOT (L65 OR L66)  
L68 42 SEA L63 NOT (L65 OR L66 OR L67)  
L69 9 SEA L65 AND 1840-2002/PY,PRY  
L70 11 SEA L66 AND 1840-2002/PY,PRY  
L71 21 SEA L67 AND 1840-2002/PY,PRY  
L72 7 SEA (L66 OR L67) NOT (L70 OR L71)  
SAV L72 GAR955A/A  
L73 37 SEA L68 AND 1840-2002/PY,PRY  
L74 5 SEA L68 NOT L73  
SAV L74 GAR955B/A

=> file hca

FILE 'HCA' ENTERED AT 21:42:36 ON 11 OCT 2006

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=> d 169 1-9 cbib abs hitstr hitind

L69 ANSWER 1 OF 9 HCA COPYRIGHT 2006 ACS on STN

139:171133 Perfluoro polyolefin **cover film** for organic **electroluminescent** device, organic **electroluminescent** device, and manufacturing method.

Kashiwagi, Motofumi; Tanaka, Kimiaki (Zeon Corporation, Japan). PCT Int. Appl. WO 2003067932 A1 20030814, 23 pp. DESIGNATED STATES: W: CN, KR, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2003-JP1202 20030205. PRIORITY: JP 2002-32346 20020208.

AB The invention refers to a **cover film** for an org. **electroluminescent** device comprising a perfluoroolefin decompn. polymer and having an av. light transmittance of > 70% from 400 to 800 nm, wherein the **cover film** is formed by plasma CVD using a source gas comprising perfluoroolefin in order to protect the **electroluminescent** device from O and water in the atm.

IT 110870-85-4, Perfluorocyclopentene homopolymer (perfluoro polyolefin **cover film** for org. **electroluminescent** device, org. **electroluminescent** device, and manufg. method)

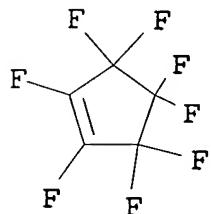
RN 110870-85-4 HCA

CN Cyclopentene, octafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 559-40-0

CMF C5 F8



IC ICM H05B033-04

ICS H05B033-10; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST **electroluminescent** device **cover film**  
plasma CVD perfluoroolefin polymer

IT **Electroluminescent** devices  
(perfluoro polyolefin **cover film** for org. **electroluminescent** device, org. **electroluminescent** device, and manufg. method)

IT Polyolefins  
(perfluoro; perfluoro polyolefin **cover film**

for org. **electroluminescent** device, org.  
**electroluminescent** device, and manufg. method)

- IT Fluoropolymers, uses  
 (perfluoroalkyl; perfluoro polyolefin **cover**  
 film for org. **electroluminescent** device, org.  
**electroluminescent** device, and manufg. method)
- IT Vapor deposition process  
 (plasma; perfluoro polyolefin **cover** film for  
 org. **electroluminescent** device, org.  
**electroluminescent** device, and manufg. method)
- IT 110870-85-4, Perfluorocyclopentene homopolymer  
 (perfluoro polyolefin **cover** film for org.  
**electroluminescent** device, org.  
**electroluminescent** device, and manufg. method)

L69 ANSWER 2 OF 9 HCA COPYRIGHT 2006 ACS on STN

138:155135 Formation of coatings from fluoro resins and fluoro rubbers without separate vulcanization and surface smoothening processes. Terasaka, Seitaro; Ogita, Koichiro (Daikin Industries, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003047911 A2 20030218, 14 pp.

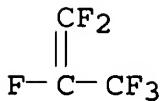
(Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-241325 20010808.

AB Coatings with surface roughness ( $R_z$ )  $\leq 2 \mu\text{m}$  are formed by applying compns. contg. meltable fluoro resins (a1) and fluoro rubber (a2) on a substrate, drying, further applying compns. contg. meltable fluoro resins (b) before vulcanization of a2, and baking at a temp. between (1)  $\geq 10^\circ$  higher than the higher m.p. of a1 or b and (2) a lowest temp. among a **decompn.** temp. of a1, a **decompn.** temp. of b, and a heat-resistant temp. of the substrate. The coated products, esp. rolls and belts for office automation equipments, are also claimed. Thus, a vinylidene difluoride-tetrafluoroethylene-hexafluoropropylene copolymer rubber dispersion and a tetrafluoroethylene-hexafluoropropylene copolymer dispersion were mixed in the solid wt. ratio 50:50, mixed. with a vulcanizer soln. cong. Epomate F 100 and A 1100, sprayed on an Al sheet, dried at 80-100° for 15 min, cooled down to a room temp., over-coated with a tetrafluoroethylene-perfluoro(alkyl vinyl ether) copolymer compn., dried, and baked at 325° for 30 min to form totally 40- $\mu\text{m}$  coatings showing contact angle 106 degree,  $R_z$  1.4  $\mu\text{m}$ , and gloss ( $60^\circ$  -  $60^\circ$ ) 52.5%.

IT 116-15-4D, Hexafluoropropylene, polymers with tetrafluoroethylene and perfluoro(alkyl vinyl ether) (formation of bilayer fluoro resin coatings contg. fluoro rubbers without sep. vulcanization and surface smoothening processes)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



- IC ICM B05D007-24  
 ICS B05D001-38; B05D003-02; C09D005-00; C09D115-02; C09D127-12;  
 F16C013-00; F16G001-08; G03G015-20
- CC 42-10 (Coatings, Inks, and Related Products)
- IT **Coating materials**  
 (formation of bilayer fluoro resin coatings contg. fluoro rubbers without sep. vulcanization and surface smoothening processes)
- IT **Coating process**  
 (two-layer-one-bake; formation of bilayer fluoro resin coatings contg. fluoro rubbers without sep. vulcanization and surface smoothening processes)
- IT 116-14-3D, Tetrafluoroethylene, polymers with perfluoro(alkyl vinyl ether) 116-15-4D, Hexafluoropropylene, polymers with tetrafluoroethylene and perfluoro(alkyl vinyl ether) 25067-11-2, Hexafluoropropylene-tetrafluoroethylene copolymer  
 (formation of bilayer fluoro resin coatings contg. fluoro rubbers without sep. vulcanization and surface smoothening processes)

L69 ANSWER 3 OF 9 HCA COPYRIGHT 2006 ACS on STN

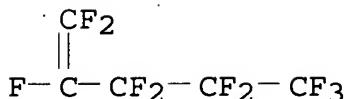
136:191490 Sealant layers for organic  
 electroluminescent (EL) devices, organic  
 electroluminescent devices, and their manufacture.  
 Kashiwagi, Mikifumi; Tanaka, Kimiaki (Nippon Zeon Co., Ltd., Japan).  
 Jpn. Kokai Tokkyo Koho JP 2002056971 A2 20020222, 7 pp.  
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-244570 20000811.

AB The layers comprise decompositional polymers of perfluoroolefins. Org. EL devices comprising a transparent substrate, a transparent electrode, a thin org. EL layer, a metal electrode, and a sealant layer in the order are also claimed. Manuf. of the devices include formation of the sealant layer by CVD of perfluoroolefin-based raw materials, under discharged dissocn., is also claimed. Damaging of the devices due to oxygen and moisture is prevented.

IT 376-87-4P 110870-85-4P, Perfluorocyclopentene homopolymer  
 (sealing of org. electroluminescent devices with fluoropolymer layers by plasma CVD)

RN 376-87-4 HCA

CN 1-Pentene, 1,1,2,3,3,4,4,5,5,5-decafluoro- (9CI) (CA INDEX NAME)



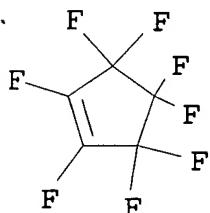
RN 110870-85-4 HCA

CN Cyclopentene, octafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 559-40-0

CMF C5 F8



IC ICM H05B033-04

ICS H05B033-10; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

ST perfluoroolefin **decompositional** polymer sealant **EL**  
device; discharged dissociative CVD **EL** device sealant  
**layer**; chem vapor deposition perfluoroolefin  
**decompositional** polymer sealantIT Vapor deposition process  
(plasma; sealing of org. **electroluminescent** devices  
with fluoropolymer **layers** by plasma CVD)IT **Electroluminescent** devices  
Sealing  
(sealing of org. **electroluminescent** devices with  
fluoropolymer **layers** by plasma CVD)IT Fluoropolymers, uses  
(sealing of org. **electroluminescent** devices with  
fluoropolymer **layers** by plasma CVD)IT 376-87-4P 110870-85-4P, Perfluorocyclopentene  
homopolymer  
(sealing of org. **electroluminescent** devices with  
fluoropolymer **layers** by plasma CVD)

132:138817 Thermal decomposition of low dielectric constant pulsed plasma fluorocarbon films I. Effect of precursors and substrate temperature. Cruden, Brett; Chu, Karen; Gleason, Karen; Sawin, Herbert (Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA, 02139, USA). Journal of the Electrochemical Society, 146(12), 4590-4596 (English) 1999  
 . CODEN: JESOAN. ISSN: 0013-4651. Publisher: Electrochemical Society.

AB Low-dielec.-const. (low k) fluorocarbon films have been deposited by pulsed plasma chem. vapor deposition with a variety of different precursors. Deposition rates and resulting film compn. have been characterized as a function of pulse timing, deposition temp., and substrate precursors. To examine the thermal **decompn.** process, we have constructed a novel app. for observation of **decompn.**, utilizing laser interferometry to examine changes in film thickness/properties during the heating process. Using the technique in conjunction with XPS, we have identified at least two methods of **decompn.** Loss of short-chain side groups is seen to occur at temps. as low as .apprx.100°C. At higher temps., bulk-film **decompn.** is obsd., and the rate is limited by mass-transport of the **decompn.** products.  
 Addnl., plasma-deposited films are obsd. to incorporate oxygen on atm. exposure. Oxygen groups formed in the film are believed to contribute to the **decompn.** process.

IT 25120-07-4P, Hexafluoropropylene homopolymer  
 (thermal **decompn.** of low-dielec.-const. pulsed plasma fluorocarbon films)

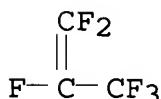
RN 25120-07-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

CMF C3 F6



CC 42-4 (Coatings, Inks, and Related Products)

IT Polymerization  
 (plasma; thermal **decompn.** of low-dielec.-const. pulsed plasma fluorocarbon films)

IT Coating materials  
 Plasma  
 (thermal **decompn.** of low-dielec.-const. pulsed plasma

- fluorocarbon films)
- IT Fluoropolymers, properties  
(thermal decompn. of low-dielec.-const. pulsed plasma fluorocarbon films)
- IT Polymer degradation  
(thermal; thermal decompn. of low-dielec.-const. pulsed plasma fluorocarbon films)
- IT 377-36-6P 9002-84-0P, PTFE 25120-07-4P,  
Hexafluoropropylene homopolymer 29613-79-4P  
(thermal decompn. of low-dielec.-const. pulsed plasma fluorocarbon films)

L69 ANSWER 5 OF 9 HCA COPYRIGHT 2006 ACS on STN

112:38234 Corrosion-resistant laminated coatings on metals. Yamada, Kenji (Mitsubishi Heavy Industries, Ltd., Japan). Jpn. Kokai Tokkyo

Koho JP 63235463 A2 19880930 Showa, 4 pp. (Japanese).

CODEN: JKXXAF. APPLICATION: JP 1987-68485 19870323.

AB Coatings comprise a layer prep'd. by plasma polymn. of polar group-contg. monomers and a hydrophobic top layer prep'd. by plasma polymn. of F-contg. monomers. The polar group-contg. monomers are pentafluoroacetophenone, hexafluoroglutaryl chloride, 2,4-TDI, acrylonitrile, and Me acrylate. The F-contg. monomers are hexafluorobenzene, pentafluorobenzene, tetrafluorobenzene, trifluorobenzene, methylpentafluorobenzene, and perfluorocyclopentene. A coating prep'd. from acrylonitrile and hexafluorobenzene had adhesion 10-30% greater than that for a coating prep'd. from hexafluorobenzene.

IT 110870-85-4, Polyperfluorocyclopentene  
(coatings, on undercoated metals, plasma-polymd.)

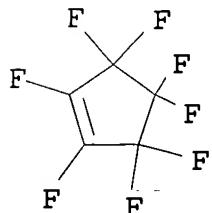
RN 110870-85-4 HCA

CN Cyclopentene, octafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 559-40-0

CMF C5 F8



IC ICM C23C014-12

CC 42-10 (Coatings, Inks, and Related Products)

IT Section cross-reference(s): 55, 56  
**Coating materials**  
 (anticorrosive, plasma-polymd. fluorine-contg. compds. as)  
 IT 31668-87-8, Polyhexafluorobenzene 32553-19-8,  
 Polypentafluorobenzene 110870-85-4,  
 Polyperfluorocyclopentene 123756-76-3,  
 Polymethylpentafluorobenzene 124793-82-4, Polytetrafluorobenzene  
 124793-83-5, Polytrifluorobenzene  
 (coatings, on undercoated metals, plasma-polymd.)

L69 ANSWER 6 OF 9 HCA COPYRIGHT 2006 ACS on STN  
 110:61827 Polymer coating of metals. Yamada, Kenji (Mitsubishi Heavy  
 Industries, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63192867 A2  
 19880810 Showa, 4 pp. (Japanese). CODEN: JKXXAF.

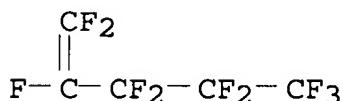
APPLICATION: JP 1987-25877 19870206.

AB Metals are coated with a fluoropolymer by plasma polymn. for  
 corrosion and heat resistance and for use as heat-exchanger tubes  
 for boilers or geothermal plants. Thus, C steel specimens at  
 200° were coated by plasma polymn. for 120 min at 100 W in  
 C6F6 flowing at 1-2 cm<sup>3</sup>/min. The coated specimens resisted  
 corrosion in 20-85% H<sub>2</sub>SO<sub>4</sub> at 50-150° for >1 day.

IT 376-87-4  
 (in plasma polymn. coating, of metals for corrosion and heat  
 resistance)

RN 376-87-4 HCA

CN 1-Pentene, 1,1,2,3,3,4,4,5,5,5-decafluoro- (9CI) (CA INDEX NAME)



IC ICM C23C014-34  
 CC 55-6 (Ferrous Metals and Alloys)  
 Section cross-reference(s): 38  
 IT **Coating process**  
 (plasma, with fluoropolymer, of metals for corrosion and heat  
 resistance)  
 IT 363-72-4, Pentafluorobenzene 376-87-4 392-56-3,  
 Hexafluorobenzene 771-56-2, Methylpentafluorobenzene 28016-01-5,  
 Tetrafluorobenzene 30179-54-5, Trifluorobenzene  
 (in plasma polymn. coating, of metals for corrosion and heat  
 resistance)

L69 ANSWER 7 OF 9 HCA COPYRIGHT 2006 ACS on STN

95:221366 Plasma polymerized protective films for plated magnetic disks.  
 Harada, Katsuhiro (Ibaraki Electr. Commun. Lab., Nippon Telegr. and  
 Teleph. Public Corp., Tokai, 319-11, Japan). Journal of Applied

Polymer Science, 26(11), 3707-18 (English) 1981. CODEN:  
JAPNAB. ISSN: 0021-8995.

AB Plasma-polymd. protective films (prepd. from toluene 2,4-diisocyanate (I),  $\alpha$ -pyrrolidone, hexafluoropropylene, or tetrafluoroethylene) for magnetic disks were investigated to improve the durability of plated disk media to head friction and clash. The best discharge conditions and app. geometry, which did not exert an aggravating influence upon head floating, formed a film having thickness heterogeneity  $\pm 5\%$  over the entire surface of 140-mm-diam. model substrates. Friction coeffs. of 0.3-0.4 were obtained for plasma-polymd. fluoro- and hydrocarbon films (thickness >.apprx.1500 Å on a ferrite slider. In contact start-stop cycle tests with a floating head, plasma-polymd. I films showed good abrasive durability because of superior adhesion to metal substrates; .apprx.1000-Å thickness films afford good protection. Read-write tests indicated that the magnetic deterioration and instability of plated disk media did not occur by plasma polymn.

IT 25120-07-4

(plasma-polymd. films, on magnetic disk, durability of)

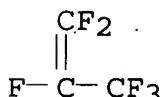
RN 25120-07-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

CMF C3 F6



CC 42-10 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 77

IT Coating materials  
(plasma-polymd., on magnetic disks, durability of)

IT Coating process  
(plasma, polymn. in, of protective films on magnetic disks)

IT 9002-84-0 24968-97-6 25120-07-4 26006-20-2  
(plasma-polymd. films, on magnetic disk, durability of)

L69 ANSWER 8 OF 9 HCA COPYRIGHT 2006 ACS on STN

53:31974 Original Reference No. 53:5731h-i Behavior of poly(tetrafluoroethylene) in heat. Troyanowsky, Clement (Ecole sup. phys. chim., Paris). Annales des Falsifications et des Fraudes, 51, 315-18 (Unavailable) 1958. CODEN: AFEFA4. ISSN:

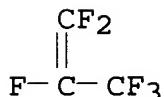
0365-2157.

AB The compd. marketed as Teflon heated in quantities of 40-50 g. yielded at 400° in 1 hr. 0.05 cc. gas, which was liquefied with liquid N. The products identified were tetrafluoroethylene, hexafluoropropene, and octafluorocyclobutane. The gas absorbed in H<sub>2</sub>O had an acid reaction which suggests the presence of free F or HF. When the material is used as an industrial metal covering, on exposure to temps. not exceeding 300° the release of products of decompn. is negligible. Heating to 375° should be done in well-ventilated rooms. This applies to pure Teflon; the mixts. with Cr salts, phosphate, and other compds. added in its use as a metal covering are less stable.

IT 116-15-4, Propene, hexafluoro-  
(formation of, in C<sub>2</sub>F<sub>4</sub>-polymer thermal degradation)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



CC 31 (Synthetic Resins and Plastics)

IT Coating(s)  
(from tetrafluoroethylene polymers, thermal degradation of)

IT 116-15-4, Propene, hexafluoro-  
(formation of, in C<sub>2</sub>F<sub>4</sub>-polymer thermal degradation)

L69 ANSWER 9 OF 9 HCA COPYRIGHT 2006 ACS on STN

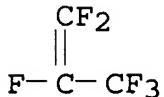
53:31973 Original Reference No. 53:5731g-h Use of coverings with poly(tetrafluoroethylene) for kitchen utensils. Truffert, Louis (Lab. municip., Paris). Annales des Falsifications et des Fraudes, 51, 319-24 (Unavailable) 1958. CODEN: AFEFA4. ISSN: 0365-2157.

AB Inhalation of products of decompn. produced by overheating of kitchen utensils covered with poly(tetrafluoroethylene) does not present a danger for the users. This, however, applies only for the pure compd., whereas the safety for mixts. has not been proved.

IT 116-15-4, Propene, hexafluoro-  
(formation of, in C<sub>2</sub>F<sub>4</sub>-polymer thermal degradation)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



CC 31 (Synthetic Resins and Plastics)  
 IT Coating(s)  
     (on cooking utensils from C<sub>2</sub>F<sub>4</sub> polymers, safety of)  
 IT 116-15-4, Propene, hexafluoro-  
     (formation of, in C<sub>2</sub>F<sub>4</sub>-polymer thermal degradation)

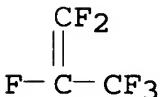
=> => d 170 1-11 cbib abs hitstr hitind

L70 ANSWER 1 OF 11 HCA COPYRIGHT 2006 ACS on STN  
 140:376383 Manufacture of surface-modified rubber products with reduced tackiness. Tsutsui, Takatsune; Kobayashi, Yukio (Nippon Valqua Industries, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004137349 A2 20040513, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-302322 20021016.

AB The products (e.g., seals for semiconductor devices, etc.) are manufd. by treating rubber products with F-contg. C≥3 monomer plasma gases to form polymer layers. Thus, an O ring, manufd. from a Dai-el G 901 compn., was treated with C<sub>3</sub>F<sub>6</sub> plasma gas to give a surface-modified product showing low surface adhesiveness and good sealing property.  
 IT 25120-07-4P, Hexafluoropropylene homopolymer  
     (tackiness redn. of rubber products by treatment with fluoro monomer plasma gases)  
 RN 25120-07-4 HCA  
 CN 1-Propene, 1,1,2,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

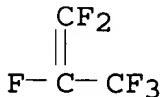
CRN 116-15-4  
 CMF C<sub>3</sub> F<sub>6</sub>



IC ICM C08J007-04  
 ICS C08L021-00  
 CC 39-15 (Synthetic Elastomers and Natural Rubber)  
     Section cross-reference(s): 42  
 IT Fluoro rubber  
     (hexafluoropropene-tetrafluoroethylene-vinylidene fluoride, Dai-el G 901; tackiness redn. of rubber products by treatment with fluoro monomer plasma gases)  
 IT 25120-07-4P, Hexafluoropropylene homopolymer  
     (tackiness redn. of rubber products by treatment with fluoro

monomer plasma gases)

- L70 ANSWER 2 OF 11 HCA COPYRIGHT 2006 ACS on STN  
 140:165142 Resin materials having water-resistant surface layers and manufacture thereof. Masui, Arata (Sumitomo Heavy Industries, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004050672 A2 20040219, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-212304 20020722.
- AB The resin materials (sheets, films), useful for org. **electroluminescent** device substrates, etc., have hydrophobic surface layers contg. an at. binding structure with an interat. distance smaller than mol. size of water. The materials are manufd. by (i) prep. Si oxide layers on resin substrates and (ii) depositing F-contg. compds. derived from F-contg. gases radicalized by (high-frequency) plasma on the Si oxide layers (during applying bias voltage on the substrates). Thus, a resin substrate having SiO<sub>2</sub> layer was processed with high-frequency plasma of C<sub>3</sub>F<sub>6</sub> to give water-resistant material.
- IT 116-15-4, Perfluoropropene  
 (hydrophobic surface layers; manuf. of resin materials having water-resistant surface layers by plasma deposition)
- RN 116-15-4 HCA  
 CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



- IC ICM B32B007-02  
 ICS C08J007-06; C09K003-10; C09K003-18; C23C016-505  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 73  
 ST resin sheet perfluoropropene plasma deposition silica water resistant surface; org **electroluminescent** device resin film hydrophobic surface; silica smaller atomic bonding distance hydrophobic resin sheet; hydrophobic fluoro compd silica surface org EL device
- IT **Electroluminescent** devices  
 (org.; manuf. of resin materials having water-resistant surface layers by plasma deposition)
- IT 116-15-4, Perfluoropropene  
 (hydrophobic surface layers; manuf. of resin materials having water-resistant surface layers by plasma deposition)

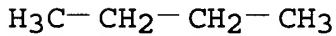
- L70 ANSWER 3 OF 11 HCA COPYRIGHT 2006 ACS on STN  
 137:209214 PD inception and breakdown voltage characteristics in PFC and SF<sub>6</sub> gas mixtures. Otsuka, Shinya; Koumura, Masaki; Eguchi, Kazuhisa; Cho, Mengu; Yuasa, Sadayuki; Okabe, Shigemitsu; Hikita,

Masayuki (Kyushu Institute of Technology, Kitakyushu, Japan). Gaseous Dielectrics IX, [Proceedings of the International Symposium on Gaseous Dielectrics], 9th, Ellicott City, MD, United States, May 21-25, 2001, 211-216. Editor(s): Christophorou, Loucas G.; Olthoff, James K. Kluwer Academic/Plenum Publishers: New York, N. Y. ISBN: 0-306-46705-4 (English) 2001. CODEN: 69CUJE.

- AB The insulation properties of perfluorocarbon (PFC) gas mixts. added with a buffer gas such as N<sub>2</sub> or CO<sub>2</sub> under nonuniform fields at different gas pressures up to 0.6 MPa were investigated. The PFC gases, CF<sub>4</sub>, C<sub>3</sub>F<sub>8</sub> and c-C<sub>4</sub>F<sub>8</sub>, were used, with special attention to C<sub>3</sub>F<sub>8</sub> which has one third the global warming potential, the same uniform field breakdown strength, and almost the same liquefaction temp. as SF<sub>6</sub>. The breakdown voltage of the unitary PFC gases was found to increase with the mol. wt., and exhibit a larger difference between the breakdown voltage (VB) and the partial discharge inception voltage (VPD), i.e., larger corona stabilization effect. The insulation properties of N<sub>2</sub>/PFC was found to largely differ from those of CO<sub>2</sub>/PFC. Time-sequential measurements of PD current pulses and light emission observations for the PFC mixts. were also performed, and the differences in the PD characteristics between N<sub>2</sub>/C<sub>3</sub>F<sub>8</sub> and CO<sub>2</sub>/C<sub>3</sub>F<sub>8</sub> were also discussed.
- IT 11070-66-9, Octafluorobutene  
 (insulation properties of perfluorocarbon gas mixts. with buffer gases such as N<sub>2</sub> or CO<sub>2</sub> under nonuniform fields)
- RN 11070-66-9 HCA
- CN Butene, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 26447-60-9  
 CMF C4 H2 F8  
 CCI IDS



8 (D1-F)

- CC 76-11 (Electric Phenomena)
- IT 75-73-0, Tetrafluoromethane 76-19-7, Octafluoropropane 124-38-9,  
 Carbon dioxide, properties 7727-37-9, Nitrogen, properties
- 11070-66-9, Octafluorobutene  
 (insulation properties of perfluorocarbon gas mixts. with buffer gases such as N<sub>2</sub> or CO<sub>2</sub> under nonuniform fields)

135:54628 Production of electron emission device, cold cathode field emission device and cold cathode field emission display. Masakazu, Muroyama; Ichiro, Saito; Kouji, Inoue; Takao, Yagi (Sony Corp., Japan). Eur. Pat. Appl. EP 1111647 A2 20010627, 58 pp.  
 DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2000-403649 20001221. PRIORITY: JP 1999-363135 19991221; JP 2000-315452 20001016.

AB A cold cathode field emission device comprising a cathode electrode formed on a supporting substrate, and a gate electrode which is formed above the cathode electrode and has an opening portion, and further comprising an electron emitting portion composed of a C film formed on a surface of a portion of the cathode electrode which portion is positioned in a bottom portion of the opening portion.

IT 11070-66-9, Octafluorobutene  
 (insulating layer etching; prodn. of electron emission device, cold cathode field emission device and cold cathode field emission display)

RN 11070-66-9 HCA

CN Butene, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 26447-60-9

CMF C4 H2 F8

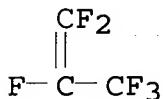
CCI IDS

H3C-CH2-CH2-CH3

8 ( D1-F )

IC ICM H01J001-304  
 ICS H01J009-02; H01J031-12; H01J003-02  
 CC 76-12 (Electric Phenomena)  
 Section cross-reference(s): 75  
 IT 630-08-0, Carbon monoxide, processes 11070-66-9,  
 Octafluorobutene  
 (insulating layer etching; prodn. of electron emission device, cold cathode field emission device and cold cathode field emission display)  
 IT 7789-09-5, Ammonium bichromate 9002-89-5, Polyvinylalcohol  
 (light emitting crystal particle dispersion;  
 prodn. of electron emission device, cold cathode field emission device and cold cathode field emission display)

- L70 ANSWER 5 OF 11 HCA COPYRIGHT 2006 ACS on STN  
 133:112252 Flexible light pipe for side-lit applications. Abramowicz, Mark Allan; Daecher, Jeffrey Lawrence; Hallden-Abberton, Michael Paul (Rohm and Haas Company, USA). U.S. US 6091878 A 20000718, 9 pp. (English). CODEN: USXXAM. APPLICATION: US 1997-974766 19971120.
- AB Methods for producing light pipe entailing concurrently and coaxially extruding a molten fluoropolymer through an annular channel of a coextrusion die to form an extruded tubular fluoropolymer cladding, and a crosslinkable core mixt. through a core mixt. delivery tube of the coextrusion die to form an extruded crosslinkable core mixt. within the circumference of the extruded tubular fluoropolymer cladding; filling the extruded tubular fluoropolymer cladding with the extruded crosslinkable core mixt.; and curing the extruded crosslinkable core mixt. within the extruded tubular fluoropolymer cladding wherein the cured extruded crosslinkable core mixt. and the extruded tubular fluoropolymer cladding are in substantially complete contact are described in which 50-4000 ppm of  $\geq 1$  light-scattering additive is added to the molten fluoropolymer prior to feeding to the annular channel. Light pipes with the capability of emitting light circumferentially are described which comprise an extruded tubular fluoropolymer cladding contg. from 50-4000 ppm of  $\geq 1$  light-scattering additive and a crosslinked core copolymer within the circumference of the extruded tubular fluoropolymer cladding, the crosslinked core copolymer comprising: .apprx.80-99.9 wt.%, based on the uncrosslinked copolymer wt., of polymd. units of a monomer unit selected from a C1-C18 alkyl acrylate, a C1-C18 alkyl methacrylate, or mixts. thereof, .apprx.0.1-20 wt.%, based on the uncrosslinked copolymer wt., of polymd. units of a functionally reactive monomer, 0-10 wt.%, based on the uncrosslinked copolymer wt., of polymd. units of a refractive index increasing monomer selected from styrene, benzyl acrylate, benzyl methacrylate, phenylethyl acrylate or phenylethyl methacrylate; and .apprx.0.1-10 wt.%, based on the crosslinkable core mixt. wt., of the reaction products of a reactive additive.
- IT 116-15-4D, Hexafluoropropylene, polymers with perfluoroalkyl vinyl ethers and tetrafluoroethylene  
 (flexible light pipes for side-lit applications and their prodn.)
- RN 116-15-4 HCA
- CN 1-Propene, 1,1,2,3,3-hexafluoro- (9CI) (CA INDEX NAME)



INCL 385143000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 38

IT 116-14-3D, Tetrafluoroethylene, polymers with perfluoroalkyl vinyl ethers and hexafluoropropylene 116-15-4D, Hexafluoropropylene, polymers with perfluoroalkyl vinyl ethers and tetrafluoroethylene 25190-89-0, Hexafluoropropylene-tetrafluoroethylene-vinylidene fluoride copolymer (flexible light pipes for side-lit applications and their prodn.)

L70 ANSWER 6 OF 11 HCA COPYRIGHT 2006 ACS on STN

129:154543 Coatings, methods and apparatus for reducing reflection from optical substrates. Haaland, Peter D.; McKoy, B. Vincent (USA).

PCT Int. Appl. WO 9833077 A2 19980730, 39 pp. DESIGNATED

STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1997-US23231 19971212. PRIORITY: US 1997-37239 19970127.

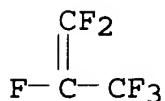
AB Antireflection coatings are described which comprise  $\geq 1$  layers of materials with the optical thicknesses of the layer(s) being selected so that the perceived reflectance of a coated substrate is half that of an uncoated substrate. Substrates may include windows, ophthalmic lenses, and display screens. Methods of coating optical substrates with antireflection (AR) coatings is also described which entail plasma deposition with optical monitoring of the film thickness. Plasma-enhanced chem. vapor deposition app. for carrying out the methods is also described. Single-layer coatings may be based on fluoropolymer films of controlled thickness and org., organosilicon, and/or inorg. multilayers may also be employed. Methods for monitoring the film growth optically entail using a polarized, light-emitting diode, a polarizing optical filter, and a photodiode. Feedback from the monitor is used to control the precursor flow to produce single layers and multilayers with prescribed antireflection properties.

IT 116-15-4, Perfluoropropene

(antireflection coatings and methods and app. for their plasma-enhanced chem. vapor deposition)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)

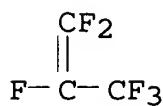


- IC ICM G02B001-10  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 Section cross-reference(s): 63, 75  
 IT 71-43-2, Benzene, uses 75-76-3, Tetramethylsilane 76-16-4, Hexafluoroethane 78-10-4, Silicon ethoxide 110-00-9, Furan 110-02-1, Thiophene 115-25-3, Perfluorocyclobutane 116-14-3, Tetrafluoroethylene, uses 116-15-4, Perfluoropropene 993-07-7, Trimethylsilane 3087-36-3, Titanium tetraethoxide 3087-37-4, Titanium tetrapropoxide 4419-47-0, Titanium tetrakis(diethylamine) (antireflection coatings and methods and app. for their plasma-enhanced chem. vapor deposition)
- L70 ANSWER 7 OF 11 HCA COPYRIGHT 2006 ACS on STN  
 129:28964 Manufacture of flexible light pipes for side-lit. Abramowicz, Mark Allan; Daecher, Jeffrey Lawrence; Hallden-Abberton, Michael Paul (Rohm and Haas Co., USA). Jpn. Kokai Tokkyo Koho JP 10148725 A2 19980602 Heisei, 14 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1997-325162 19971112. PRIORITY: US 1996-31240 19961112.
- AB Title light pipes are manufd. by (1) coaxial extrusion of (a) melted fluoropolymers corresponding to cyclic clad, after addn. of 50-4000 ppm light-dispersing additives and (b) crosslinkable compns. corresponding to cores, (2) filling the resulting clads with the resulting cores, and (3) curing of the cores. Also claimed are (A) products of the above process radiating light from the side parts (i.e., side-light emission) and (B) light pipes comprising fluoropolymer cyclic clads contg. the above light-dispersing additives and cores made of crosslinked polymers having (a) units comprising 80-99.9% (based on noncrosslinked polymers) C1-18 alkyl acrylates and/or C1-18 methacrylates, (b) units of 0.1-10% functional monomers (which may be alkoxy silanes), and (c) units of 0-10%  $\geq 1$  monomers selected from styrene, benzyl (meth)acrylate, phenylethyl (meth)acrylate assocd. with (d) 0.1-10% (based on crosslinkable monomer mixts. corresponding to cores) reactive additives (which may be water or condensation catalysts).
- IT 116-15-4D, Hexafluoropropylene, polymers with perfluoroalkyl vinyl ethers and tetrafluoroethylene (transparent sheath; in flexible light pipes comprising fluoropolymer cyclic clads contg. light-dispersing additives and

cores)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



IC ICM G02B006-00

ICS G02B006-00; B29C047-26; C08J003-24; G02B001-04; G02B005-02;  
B29K027-12; B29K033-00; B29K105-24; B29K309-08; B29K505-00;  
B29L009-00; B29L023-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 73

IT 116-14-3D, Tetrafluoroethylene, polymers with perfluoroalkyl vinyl ethers and hexafluoropropylene 116-15-4D,  
Hexafluoropropylene, polymers with perfluoroalkyl vinyl ethers and tetrafluoroethylene 9002-86-2, PVC  
(transparent sheath; in flexible light pipes comprising fluoropolymer cyclic clads contg. light-dispersing additives and cores)

L70 ANSWER 8 OF 11 HCA COPYRIGHT 2006 ACS on STN

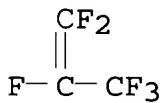
127:255034 Electroluminescent lamps. Tanabe, Koji; Chikahisa,  
Yosuke; Ikoma, Heiji (Matsushita Electric Industrial Co., Ltd.,  
Japan). Jpn. Kokai Tokkyo Koho JP 09232076 A2 19970905  
Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
1996-37711 19960226.

AB An EL lamp comprises: a polyethylene terephthalate film coated with an ITO electrode; a fluorovinylidene rubber layer contg. a phosphor and BaTiO<sub>3</sub> particles; the rubber layer contg. BaTiO<sub>3</sub> particles; an electrode layer made of a conductive paste; and an insulating paste layer.

IT 116-15-4, Perfluoropropylene  
(electroluminescent lamps)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



IC ICM H05B033-20

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST phosphor electroluminescent lamp barium titanate resin

IT Electric lamps  
 Electrically conductive pastes  
   Electroluminescent devices  
 Pastes  
   (electroluminescent lamps)  
 IT Polyesters, uses  
   (electroluminescent lamps)  
 IT Rubber, uses  
   (fluorovinylidene; electroluminescent lamps)  
 IT 116-14-3, Perfluoroethylene, uses 116-15-4,  
 Perfluoropropylene 12047-27-7, Barium titanate (BaTiO<sub>3</sub>), uses  
 25038-59-9, Polyethylene terephthalate, uses 25190-89-0  
   (electroluminescent lamps)

L70 ANSWER 9 OF 11 HCA COPYRIGHT 2006 ACS on STN

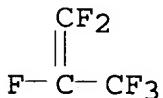
125:249999 Fluoropolymer cleaning blades with good abrasion resistance for rolls of oil coating. Umemoto, Noboru; Tanigawa, Naonari (Ntn Toyo Bearing Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 08199032 A2 19960806 Heisei, 12 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1995-253068 19950929. PRIORITY: JP 1994-237262 19940930.

AB Title cleaning blades are obtained from fluoro rubbers, injection moldable thermoplastic fluoropolymers, and low-mol.-wt. fluoropolymers with mol. wt.  $\leq$  50,000. Thus, Aflas (fluoro rubber) 70, Aflon COP 30, Lubricant L 169 (low-mol.-wt. TFE) 10, MT carbon (C) 5, Na stearate 1, org. peroxide 1, and triallyl isocyanurate 5 parts were kneaded and vulcanized to give a test piece showing good abrasion resistance.

IT 116-15-4D, Hexafluoropropylene, polymers with perfluoroalkyl vinyl ether  
   (fluoropolymer cleaning blades with good abrasion resistance for rolls of oil coating)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3-hexafluoro- (9CI) (CA INDEX NAME)



IC ICM C08L027-12  
 ICS B29D031-00; G03G015-20; G03G021-10

ICI B29K027-12

CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 39, 74

IT Rubber, synthetic  
   (perfluoro(alkoxyalkyl) trifluorovinyl ether-tetrafluoroethylene, iodine-terminated, Dai-el Perfluoro GA 50;

fluoropolymer cleaning blades with good abrasion resistance for rolls of oil coating)

IT 116-14-3D, Tetrafluoroethylene, polymers with perfluoroalkyl vinyl ether 116-15-4D, Hexafluoropropylene, polymers with perfluoroalkyl vinyl ether 9002-83-9, Trifluorochloroethylene polymer 24937-79-9, Poly(vinylidene fluoride) 24981-14-4, Poly(vinyl fluoride) 25038-71-5, Aflon COP 25067-11-2, Hexafluoropropylene-tetrafluoroethylene copolymer 25101-45-5, Ethylene-trifluorochloroethylene copolymer 65099-45-8, PFA-MP 10 (fluoropolymer cleaning blades with good abrasion resistance for rolls of oil coating)

L70 ANSWER 10 OF 11 HCA COPYRIGHT 2006 ACS on STN

125:44670 **Electroluminescent** lamp and its manufacture. Mori, Naoyuki (Kansai Nippon Electric, Japan). Jpn. Kokai Tokkyo Koho JP 08055680 A2 19960227 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-190217 19940812.

AB In **electroluminescent** lamps comprising an emitting layer contg. a phosphor with a moisture-resistant coating dispersed in a fluororesin and a reflection-insulating layer, between a transparent electrode and a counter electrode, the fluororesin comprises a fluororubber, and the mixed wt. ratio of the phosphor based on the fluororubber is 1-5. The fluororesin may comprise a solid fluororesin and a liq. fluororesin (at ordinary temps.). The fluororesin may comprise (a copolymer contg.) vinylidene fluoride, hexafluoropropylene, and/or a fluororubber. The manuf. entails doctor blading the reflection-insulating layer on a long-size counter electrode, forming the emitting layer of a fluororubber or the fluororesin mixt. od above compn. contg. a phosphor having a moisture-resistant coating by doctor blading, and heat-pressing to adhere the transparent electrode to the emitting layer. The lamp shows a high moisture resistance and uniform emitting property.

IT 25120-07-4, Hexafluoropropylene homopolymer  
(emitting layer; manuf. of moisture-resistant  
**electroluminescent** lamps)

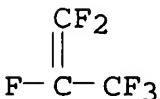
RN 25120-07-4 HCA

CN 1-Propene, 1,1,2,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

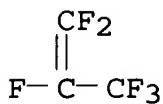
CRN 116-15-4

CMF C3 F6



IC ICM H05B033-20  
ICS H05B033-04; H05B033-10  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
ST **electroluminescent lamp moisture resistance; fluororubber phosphor emitting layer electroluminescent**  
IT Fluoropolymers  
(emitting layer; manuf. of moisture-resistant electroluminescent lamps)  
IT **Electroluminescent devices**  
(manuf. of moisture-resistant electroluminescent lamps)  
IT Rubber, synthetic  
(fluoro, manuf. of moisture-resistant electroluminescent lamps)  
IT 9002-88-4, G 801  
(binder resin; manuf. of moisture-resistant electroluminescent lamps)  
IT 75-38-7, Vinylidene fluoride  
(copolymers, emitting layer; manuf. of moisture-resistant electroluminescent lamps)  
IT 25120-07-4, Hexafluoropropylene homopolymer  
(emitting layer; manuf. of moisture-resistant electroluminescent lamps)  
IT 12047-27-7, Barium titanate, uses  
(reflection-insulating layer; manuf. of moisture-resistant electroluminescent lamps)  
IT 25038-59-9, Polyethylene terephthalate, uses 50926-11-9, ITO  
(transparent electrode; manuf. of moisture-resistant electroluminescent lamps)

L70 ANSWER 11 OF 11 HCA COPYRIGHT 2006 ACS on STN  
110:13632 Thermoplastic fluoroelastomer denture base. Tatemoto,  
Masayoshi; Yagi, Toshiharu (Daikin Industries, Ltd., Japan). Eur.  
Pat. Appl. EP 268157 A1 19880525, 6 pp. DESIGNATED  
STATES: R: DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP  
1987-116324 19871105. PRIORITY: JP 1986-UT170586 19861105.  
AB Denture bases or relining materials for a denture base are prepd.  
from a thermoplastic fluoroelastomer, which induces no hemolysis,  
are not cytotoxic, are to resilient, and can easily be colored in  
skin tones. DAI-el thermoplastic T-530 (fluoroelastomer),  
suitable for making a denture plate, was found to induce no  
erythrocyte hemolysis, was not cytotoxic and did not elute harmful  
substances.  
IT 116-15-4D, polymers  
(rubber, thermoplastic, as denture base and lining material)  
RN 116-15-4 HCA  
CN 1-Propene, 1,1,2,3,3-hexafluoro- (9CI) (CA INDEX NAME)



IC A61K006-08  
 CC 63-7 (Pharmaceuticals)  
 Section cross-reference(s): 39  
 IT 75-38-7D, polymers 116-14-3D, polymers 116-15-4D,  
 polymers 382-10-5D, polymers 677-21-4D, polymers 37145-46-3D,  
 polymers  
 (rubber, thermoplastic, as denture base and lining material)

=> d 171 1-21 cbib abs hitstr hitind

L71 ANSWER 1 OF 21 HCA COPYRIGHT 2006 ACS on STN  
 142:124426 Method for removing the residual polymer and decreasing the loss of oxide after photolithographic process. Chen, Zhongtai (Macronix International Co., Ltd., Peop. Rep. China). Faming Zhanli Shenqing Gongkai Shuomingshu CN 1400638 A 20030305, 13 pp. (Chinese). CODEN: CNXXEV. APPLICATION: CN 2001-125076 20010806.  
 AB The method comprises forming a photoresist layer to cover the oxide layer on memory array and cover the photoresist layer on the oxide layer of the peripheral circuit region, dry etching to remove the oxide layer and the conductive layer in the peripheral circuit region to expose the substrate in the peripheral circuit region, forming a polymer protective layer on the etched sidewall to maintain the etch profile, removing the photoresist layer, and wet etching with ultra-dild. HF soln. or a mixt. soln. to remove the polymer protective layer. The mixt. soln. is composed of NH4OH 1, H2O2 1, and water 5-10 part.  
 IT 11070-66-9, Octafluorobutene  
 (removal of residual polymer and redn. of loss of oxide after photolithog.)  
 RN 11070-66-9 HCA  
 CN Butene, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 26447-60-9  
 CMF C4 H2 F8  
 CCI IDS

H<sub>3</sub>C—CH<sub>2</sub>—CH<sub>2</sub>—CH<sub>3</sub>

8 ( D1—F )

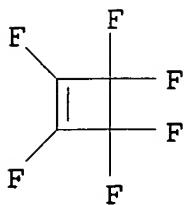
IC ICM H01L021-3105  
ICS H01L021-4757  
CC 76-3 (Electric Phenomena)  
IT 75-46-7, Fluoroform 7664-39-3, Hydrofluoric acid, reactions  
7664-41-7, Ammonia, reactions 7722-84-1, Hydrogen peroxide,  
reactions 11070-66-9, Octafluorobutene  
(removal of residual polymer and redn. of loss of oxide after  
photolithog.)

L71 ANSWER 2 OF 21 HCA COPYRIGHT 2006 ACS on STN  
141:15846 Soft-landing etching method using doping level control.  
Young, Jung Woo (1st Silicon (Malaysia) Sdn Bhd, Malay.). U.S. Pat.  
Appl. Publ. US 2004106300 A1 20040603, 7 pp. (English). CODEN:  
USXXCO. APPLICATION: US 2002-306962 20021129.

AB The present invention relates to a process for the manuf. of semiconductor electronic devices and integrated circuits. In particular, it relates to a soft-landing etching method for forming, e.g. a gate oxide layer or contact hole at a desired level. The method of the present invention comprises the following steps: (a) laying on a prior layer, a 1st oxide layer doped in 1 form; (b) laying on the 1st oxide layer, a 2nd oxide layer doped in a different form; (c) patterning the layers; (d) etching the 2nd layer with an etchant having high selectivity to the 2nd doped oxide layer; and (e) etching the 1st layer with an etchant having high selectivity to the 1st doped oxide layer. As the etch rate is higher for the highly doped oxide than that for the lightly doped oxide, high selectivity of etching between such layers can therefore be attained. A lightly doped Si oxide layer may therefore be used to stop etching at an optimal thickness over the complicated layer of substrate. The lightly doped Si oxide area may be covered with a layer of highly doped Si oxide layer which may be etched with a specific etchant.

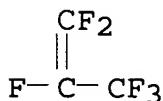
IT 697-11-0, Hexafluorocyclobutene  
(etching mixt. contg.; soft-landing etching method using doping level control)

RN 697-11-0 HCA  
CN Cyclobutene, hexafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM H01L021-302  
 ICS H01L021-461; H01L021-31; H01L021-469  
 INCL 438763000; X43-872.3; X43-870.5  
 CC 76-3 (Electric Phenomena)  
 IT 75-10-5, Difluoromethane 75-46-7, Trifluoromethane 75-73-0,  
 Tetrafluoromethane 115-25-3, Octafluorocyclobutane 559-40-0,  
 Octafluorocyclopentene 630-08-0, Carbon monoxide, processes  
 697-11-0, Hexafluorocyclobutene 7727-37-9, Nitrogen,  
 processes 7782-44-7, Oxygen, processes  
 (etching mixt. contg.; soft-landing etching method using doping  
 level control)

L71 ANSWER 3 OF 21 HCA COPYRIGHT 2006 ACS on STN  
 140:207483 Protective release films having excellent surface smoothness  
 for dry-film photoresists. Kawaguchi, Yoshikazu; Iwasaki, Hiroshi  
 (Mitsubishi Chemical Polyester Film Co., Ltd., Japan). Jpn. Kokai  
 Tokkyo Koho JP 2004066697 A2 20040304, 9 pp. (Japanese). CODEN:  
 JKXXAF. APPLICATION: JP 2002-230733 20020808.  
 AB The release films comprise polyester support films coated with  
 crosslinked F-contg. polymer layers satisfying crosslinker content  
 (to dry solids) 5-80% and the max. protrusion height (R<sub>t</sub>) 0.1-2.0  
 μm. The films may satisfy haze ≤7% at 16-μm thickness  
 and comprise ≥80% ethylene terephthalate unit. The release  
 films ensure closest contact between dry-film photoresists and  
 wiring board substrates, thereby improving pattern precision in  
 photolithog.  
 IT 116-15-4DP, Hexafluoropropylene, fluoro polymers  
 (release layers; cover films having  
 crosslinked release layers with good smoothness for dry-film  
 photoresists)  
 RN 116-15-4 HCA  
 CN 1-Propene, 1,1,2,3,3-hexafluoro- (9CI) (CA INDEX NAME)



IC ICM B32B027-36

- ICS B32B027-30; G03F007-11  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 76  
ST dry film photoresist cover film  
smoothness; crosslinked fluoropolymer coated PET release film;  
circuit board closest contact photoresist film  
IT Release films  
(cover films having crosslinked release  
layers with good smoothness for dry-film photoresists)  
IT Photoresists  
(dry-film; cover films having  
crosslinked release layers with good smoothness for dry-film  
photoresists)  
IT Fluoropolymers, preparation  
(melamine-crosslinked, release layers; cover  
films having crosslinked release layers with good  
smoothness for dry-film photoresists)  
IT Polyesters, uses  
(support films; cover films having  
crosslinked release layers with good smoothness for dry-film  
photoresists)  
IT Fatty acids, preparation  
(vinyl esters, fluoro polymers, release layers;  
cover films having crosslinked release layers  
with good smoothness for dry-film photoresists)  
IT 108-78-1D, Melamine, alkylol derivs.  
(crosslinking agents; cover films having  
crosslinked release layers with good smoothness for dry-film  
photoresists)  
IT 79-38-9DP, Chlorotrifluoroethylene, fluoro polymers 105-38-4DP,  
Vinyl propionate, fluoro polymers 108-05-4DP, Vinyl acetate,  
fluoro polymers 116-15-4DP, Hexafluoropropylene, fluoro  
polymers 925-21-3DP, Monobutyl maleate, fluoro polymers  
2459-05-4DP, Monoethyl fumarate, fluoro polymers  
(release layers; cover films having  
crosslinked release layers with good smoothness for dry-film  
photoresists)  
IT 25038-59-9, Poly(ethylene terephthalate), uses  
(support films; cover films having  
crosslinked release layers with good smoothness for dry-film  
photoresists)

L71 ANSWER 4 OF 21 - HCA COPYRIGHT 2006 ACS on STN  
138:213710 Flash step preparatory to dielectric etch. Wang, Zhuxu; Liu,  
Jingbao; Bjorkman, Claes H.; Pu, Bryan (Applied Materials, Inc.,  
USA). U.S. Pat. Appl. Publ. US 2003045116 A1 20030306, 9 pp.  
(English). CODEN: USXXCO. APPLICATION: US 2002-163812 20020605.

PRIORITY: US 2001-PV317848 20010906.

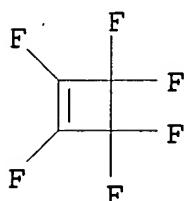
AB A dielec. plasma etch method particularly useful for assuring that residue does not form in large open pad areas used for monitoring etching of narrow via and contact holes. The main dielec. etch of the via and contact holes uses a highly polymg. chem., preferably of a low-F/C fluorocarbon such as C<sub>4</sub>F<sub>6</sub> in conjunction with O<sub>2</sub> and Ar. A short flash step precedes the main plasma etch using a plasma of a gas less polymg. than the gas of the main etch, and the plasma is not extinguished between the flash and main steps. The flash step may be used to remove an anti-reflection **coating (ARC)** covering the dielec. layer and use a lean fluorocarbon, such as CF<sub>4</sub>, perhaps together with O<sub>2</sub> and Ar. In the absence of ARC, an argon flash may be used.

IT 697-11-0

(dielec. plasma etch method using C<sub>4</sub>F<sub>6</sub> in conjunction with O<sub>2</sub> and Ar)

RN 697-11-0 HCA

CN Cyclobutene, hexafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM H01L021-461

ICS H01L021-302

INCL 438710000

CC 76-3 (Electric Phenomena)

IT Antireflective films

(flash step for removal of anti-reflection **coating** covering dielec. layer before plasma etching)

IT 697-11-0 7440-37-1, Argon, uses 7782-44-7, Oxygen, uses (dielec. plasma etch method using C<sub>4</sub>F<sub>6</sub> in conjunction with O<sub>2</sub> and Ar)

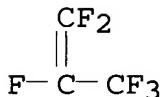
L71 ANSWER 5 OF 21 HCA COPYRIGHT 2006 ACS on STN

138:124024 Heat-resistant nonsticky coatings having good wear resistance and metal strips coated with them. Sugita, Shuichi; Yano, Hirokazu; Mori, Koji; Kawanobe, Hiroyuki; Sakai, Tetsuo (Nisshin Steel Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003033995 A2 20030204, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-307113 20011003. PRIORITY: JP 2001-147353 20010517.

AB The metal strips comprise a coating layer manufd. from a heat-resistant compn. contg. heat-meltable fluoropolymers having av. particle size  $\leq 1 \mu\text{m}$  and inorg. flakes having av. particle

size 10-100  $\mu\text{m}$ , wherein, the **coating layer** is **covered** with a thin layer made from the fusible fluoropolymers and the inorg. flakes and the heat-meltable fluoropolymer particles are dispersed in the coating under the thin layer. Coatings comprises heat resistant resin 100, heat-meltable fluoropolymers 10-200, and inorg. flakes 1-30 parts. Thus, a compn. contg. 50% tetrafluoroethylene-perfluoroalkyl vinyl ether, 20% glass flakes, and a polyether sulfone resin as a base was applied on a Zn-55% Al alloy-coated steel to give a test piece showing pencil hardness 2H.

- IT 116-15-4D, Hexafluoropropylene, polymer with perfluoroalkyl vinyl ether and tetrafluoroethylene  
 (particles, coatings contg.; heat-resistant nonsticky coatings having good wear resistance for metal strips)
- RN 116-15-4 HCA
- CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



- IC ICM B32B015-08  
 ICS C09D127-18; C09D129-10; C09D179-08; C09D181-04; C09D181-06;  
 C09D201-04
- CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 55, 56
- IT 116-14-3D, Tetrafluoroethylene, polymer with perfluoroalkyl vinyl ether and hexafluoropropylene 116-15-4D,  
 Hexafluoropropylene, polymer with perfluoroalkyl vinyl ether and tetrafluoroethylene 9002-84-0, Polytetrafluoroethylene  
 (particles, coatings contg.; heat-resistant nonsticky coatings having good wear resistance for metal strips)

- L71 ANSWER 6 OF 21 HCA COPYRIGHT 2006 ACS on STN  
 137:54793 Method of fabricating pixel electrode in liquid crystal display. Kim, Hye Young; Ahn, You Shin (S. Korea). U.S. Pat. Appl. Publ. US 2002085168 A1 20020704, 11 pp. (English). CODEN: USXXCO. APPLICATION: US 2001-29144 20011228. PRIORITY: KR 2000-86923 20001230.
- AB A method of fabricating a pixel electrode of a liq. crystal display uses an etchant that has low damage to metals to thereby enhance yields. In the method, a protective **film covers** a switching device, and a contact hole is defined at the protective film in such a manner to expose one electrode of the switching device. The pixel electrode, connected via the contact hole to the one electrode of the switching device, is formed on the protective film by using a low-temp. process in which a hydrogen-contg. gas is

injected within a vacuum chamber. Accordingly, the etching process time can be shortened and damage to the metal can be virtually eliminated.

IT 53761-77-6, Polyperfluorocyclobutene  
(passivation layer; method of fabricating pixel electrode in liq.  
crystal display)

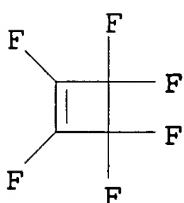
RN 53761-77-6 HCA

CN Cyclobutene, hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 697-11-0

CMF C4 F6



IC ICM G02F001-13

INCL 349187000

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

IT 7631-86-9, Silicon oxide, processes 9002-84-0,  
Polytetrafluoroethylene 12033-89-5, Silicon nitride, processes  
53761-77-6, Polyperfluorocyclobutene 139196-38-6,  
Polybenzocyclobutene  
(passivation layer; method of fabricating pixel electrode in liq.  
crystal display)

L71 ANSWER 7 OF 21 HCA COPYRIGHT 2006 ACS on STN

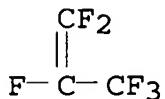
137:35395 Fluorinated ketones as lubricant deposition solvents for magnetic media applications. Parent, Michael J.; Kehren, Jason M.; Munday, Richard M. (3M Innovative Properties Company, USA). U.S. US 6403149 B1 20020611, 10 pp. (English). CODEN: USXXAM.

APPLICATION: US 2001-841383 20010424.

AB A lubricant compn. comprising a perfluoropolyether lubricant and fluorinated ketone solvent is described. The lubricant compn. can be applied as a coating to a substrate such as magnetic media. After the coating dries, a thin uniform lubricant film covers the substrate surface. The fluorinated ketone solvent can solubilize a wide range of perfluoropolyether compds. but not potential contaminants such as water and hydrocarbons. Addnl., the solvent has low potential to adversely affect global

warming.

- IT 116-15-4, Hexafluoropropylene  
     (fluorinated ketones as lubricant deposition solvents for  
     magnetic media applications)
- RN 116-15-4 HCA
- CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)

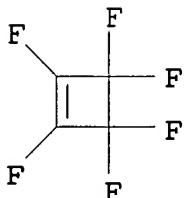


- IC ICM B05D005-12  
 INCL 427130000  
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)  
 IT 64-19-7, Acetic acid, reactions 67-56-1, Methanol, reactions  
     111-96-6, Diglyme 116-15-4, Hexafluoropropylene 335-42-2  
     355-42-0, -Perfluorohexane 375-62-2, Perfluoropentanoyl fluoride  
     382-28-5, Fluorinert PF 5052 422-61-7 425-38-7 2051-50-5,  
     2-Octyl acetate 2834-23-3, Chlorodifluoroacetic anhydride  
     7487-88-9, Magnesium sulfate, reactions 7722-64-7, Potassium  
     permanganate 7789-23-3, Potassium fluoride 7789-29-9, Potassium  
     bifluoride 13429-24-8, Hexafluoropropylene dimer 436084-77-4  
     436084-78-5  
     (fluorinated ketones as lubricant deposition solvents for  
     magnetic media applications)

- L71 ANSWER 8 OF 21 HCA COPYRIGHT 2006 ACS on STN  
 136:209131 Method of manufacturing semiconductor device with  
     self-aligned contact structure employing dual spacers. Ahn,  
     Tae-Hyuk; Kim, Myeong-Cheol; Jeong, Sang-Sup (S. Korea). U.S. Pat.  
     Appl. Publ. US 2002024093 A1 20020228, 18 pp. (English).  
 CODEN: USXXCO. APPLICATION: US 2001-933674 20010822. PRIORITY: KR  
 2000-48819 20000823.
- AB A semiconductor device having a self-aligned contact and a method of manufg. the same. The device comprises a semiconductor substrate and 2 spaced apart conductor structures formed on the substrate. Each of the conductor structures includes a 1st conductive layer covered with a Si nitride mask layer. Si oxide spacers are formed on the sides of each conductor structure to a height lower than the top surface of the Si nitride mask layer. Si nitride spacers are formed on the sides of each conductor structure and the surface of the Si oxide spacers. Over the conductor structures and substrate, there is formed an insulating layer of Si oxide having a self-aligned contact hole exposing the Si nitride spacers and partially extending over each conductor structure. The self-aligned contact hole is filled up with a 2nd conductive layer self-aligned to the conductor structures. The dual

spacers, consisting of the Si oxide spacer and the Si nitride spacer, formed on the sides of the conductor structure, decrease the loading capacitance between the 1st conductive layer and the 2nd conductive layer within the self-aligned contact hole, while still providing sufficient insulation against shorts.

IT 697-11-0  
 (etching gases; method of manufg. semiconductor device with self-aligned contact structure employing dual spacers)  
 RN 697-11-0 HCA  
 CN Cyclobutene, hexafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM H01L029-76  
 ICS H01L029-94  
 INCL 257332000  
 CC 76-3 (Electric Phenomena)  
 IT 115-25-3 559-40-0 697-11-0 7440-37-1, Argon, processes  
 7782-44-7, Oxygen, processes  
 (etching gases; method of manufg. semiconductor device with self-aligned contact structure employing dual spacers)

L71 ANSWER 9 OF 21 HCA COPYRIGHT 2006 ACS on STN  
 135:212251 Atmospheric pressure glow plasma application surface treatment of woolen textiles. Okazaki, S.; Kogoma, M.; Kawashima, T. (Faculty of Science and Technology, Sophia University, Tokyo, 102-8571, Japan). ICPIG, International Conference on Phenomena in Ionized Gases, Contributed Papers, 24th, Warsaw, Poland, July 11-16, 1999, Volume 2, 123-124. Editor(s): Pisarczyk, P.; Pisarczyk, T.; Wolowski, J. Institute of Plasma Physics and Laser Microfusion: Warsaw, Pol. (English) 1999. CODEN: 69BDX6.

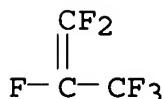
AB Wool textile surfaces were treated using the atm. pressure glow plasma method with He as diluent gas together with O<sub>2</sub>, N<sub>2</sub>, Ar, or the polymg. gas C<sub>3</sub>F<sub>6</sub>. Changes to the surface were studied using SEM and XPS measurements; these suggested that treatment in C<sub>3</sub>F<sub>6</sub> results in a thin polymer film covering the surface. The importance of S-S bond rupture and surface lipid removal, effects believed to be seen on He plasma treatment and subsequent oxidn., for preshrinkage and water absorption capability is discussed.

IT 25120-07-4, Polyhexafluoropropene  
 (glow plasma treatment of woolen textile surfaces)

RN 25120-07-4 HCA  
 CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4  
 CMF C3 F6



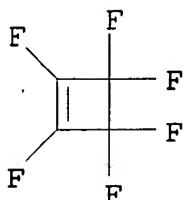
CC 40-9 (Textiles and Fibers)  
 IT 25120-07-4, Polyhexafluoropropene  
 (glow plasma treatment of woolen textile surfaces)

L71 ANSWER 10 OF 21 HCA COPYRIGHT 2006 ACS on STN  
 132:17238 Production method for active matrix substrate of liquid crystal display. Nishiki, Hirohiko; Yamamoto, Akihiro; Ohue, Hiroyuki (Sharp Corp., Japan). Jpn. Kokai Tokkyo Koho JP 11337973 A2 19991210 Heisei, 9 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1998-148014 19980528.

AB The active matrix substrate is manufd. according to the following steps; (1) forming switching elements and wiring on a substrate, (2) forming org. insulating layer to cover the elements and the wiring, (3) forming a contact hole though the insulating layer, (4) plasma treating the insulating layer with N gas, and (5) forming pixel electrodes connecting with the switching elements on the insulating layer. The pixel electrodes show good adhesion with the insulating layer.

IT 697-11-0D, Perfluorocyclobutene, polymers  
 (insulating layer; manuf. for active matrix by plasma treating org. insulating layer for liq. crystal display)

RN 697-11-0 HCA  
 CN Cyclobutene, hexafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM G02F001-136  
 ICS G02F001-1343

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 76  
 IT 697-11-0D, Perfluorocyclobutene, polymers 124221-30-3  
 (insulating layer; manuf. for active matrix by plasma treating org. insulating layer for liq. crystal display)

L71 ANSWER 11 OF 21 HCA COPYRIGHT 2006 ACS on STN

131:215717 Manufacture of base materials for covering absorbents for body fluids. Tada, Hiroshi; Okura, Takuya (Sekisui Chemical Co. Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11253484 A2  
 19990921 Heisei, 4 pp. (Japanese). CODEN: JKXXAF.

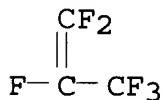
APPLICATION: JP 1998-65405 19980316.

AB The title process involves giving water-repellent treatments to liq.-permeable porous resin films, wherein (i) the treatment is run in F compd.-contg. atm. at around atm. pressure using a pair of electrodes having a gap in between, (ii) at least one of faces of the electrodes are equipped with solid dielecs., and (iii) elec. field pulse is applied in between the electrodes and the discharge plasma is made into contact with the films. The materials are esp. suitable for sanitary napkins and diapers. Thus, a polypropylene spun bond was set between ZrO<sub>2</sub>-coated electrodes and plasma-treated in a 2:98 (vol) mixt. of hexafluoropropylene and argon to give a test piece having contact angle to water 128°.

IT 116-15-4  
 (F compd. plasma-coated porous resin films for covers of sanitary napkins and diapers)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3-hexafluoro- (9CI) (CA INDEX NAME)



IC ICM A61F013-15  
 ICS A61F013-54; C08J007-00  
 CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 38, 64  
 ST body fluid absorbent cover water repellency; fluorine compd coating body fluid adsorbent; polypropylene fabric fluoropropylene water repellent coating; sanitary napkin cover water repellent coating; diaper cover fluorine water repellent coating  
 IT Disposable diapers  
 Plastic films  
 (F compd. plasma-coated porous resin films for covers of sanitary napkins and diapers)  
 IT Polypropene fibers, uses

- (fabrics, nonwoven; F compd. plasma-coated porous resin films for covers of sanitary napkins and diapers)
- IT Porous materials  
(films; F compd. plasma-coated porous resin films for covers of sanitary napkins and diapers)
- IT Films  
(porous; F compd. plasma-coated porous resin films for covers of sanitary napkins and diapers)
- IT Medical goods  
(sanitary napkins; F compd. plasma-coated porous resin films for covers of sanitary napkins and diapers)
- IT Coating materials  
(water-resistant; F compd. plasma-coated porous resin films for covers of sanitary napkins and diapers)
- IT 116-15-4  
(F compd. plasma-coated porous resin films for covers of sanitary napkins and diapers)
- IT 25085-53-4, Isotactic polypropylene  
(fiber, spun bond; F compd. plasma-coated porous resin films for covers of sanitary napkins and diapers)
- IT 9002-88-4, Polyethylene  
(porous film; F compd. plasma-coated porous resin films for covers of sanitary napkins and diapers)

- L71 ANSWER 12 OF 21 HCA COPYRIGHT 2006 ACS on STN  
127:184351 Fabrication of MOSFETs and CMOS devices. Yu, Chen-hua  
Douglas (Taiwan Semiconductor Manufacturing Company Ltd, Taiwan).  
U.S. US 5654233 A 19970805, 10 pp. (English). CODEN:  
USXXAM. APPLICATION: US 1996-630710 19960408.
- AB A process for creating a planar topog. and enhanced step coverage for the fabrication of contact/via holes in the sub-half-micron diam. range with high aspect ratio is described. This is accomplished by interrupting the deposition of the barrier layer in the contact/via lining with a programmed reactive ion etching process, which protects the thin barrier lining in the bottom part of the contact hole, but etches off and planarizes the excessively thick barrier layer near the opening of the hole. The resulting barrier layers show a disrupted columnar film structure which provides a better barrier during the subsequent metal fill deposition process.
- IT 11070-66-9, Perfluorobutene  
(reactive ion etching by; in fabrication of MOSFETs and CMOS devices)
- RN 11070-66-9 HCA

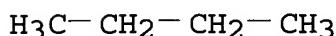
CN Butene, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 26447-60-9

CMF C4 H2 F8

CCI IDS



8 ( D1-F )

IC ICM H01L021-283

INCL 438643000

CC 76-3 (Electric Phenomena)

IT 12033-62-4, Tantalum nitride 12705-37-2, Chromium nitride  
25583-20-4, Titanium nitride (TiN) 37245-81-1, Molybdenum nitride  
37359-53-8, Tungsten nitride  
(barrier layer; step coverage enhancement of  
contact holes in fabrication of MOSFETs and CMOS devices contg.)

IT 75-73-0, Carbon fluoride (CF4) 116-14-3, Perfluoroethene,  
processes 7727-37-9, Nitrogen, processes 7782-44-7, Oxygen,  
processes 7782-50-5, Chlorine, processes 10294-34-5, Boron  
chloride (BCl3) 11070-66-9, Perfluorobutene  
(reactive ion etching by; in fabrication of MOSFETs and CMOS  
devices)

L71 ANSWER 13 OF 21 HCA COPYRIGHT 2006 ACS on STN

126:245526 Substrate surface processing apparatus. Ono, Tetsuo;  
Tokunaga, Takafumi; Enomoto, Hiroyuki (Hitachi Ltd, Japan). Jpn.  
Kokai Tokkyo Koho JP 09050984 A2 19970218 Heisei, 4 pp.  
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-200656 19950807.

AB The invention relates to a substrate surface processing app. for,  
e.g., plasma etching of insulator films on semiconductor wafers,  
wherein the insulator film is const. covered  
over with a conductive layer throughout the etching process, thereby  
suppressing the localized anomalous etching, caused by the trapped  
charges.

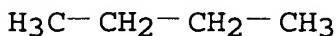
IT 11070-66-9, Perfluorobutene  
(plasma etching app. for insulator removal)

RN 11070-66-9 HCA

CN Butene, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 26447-60-9  
CMF C4 H2 F8  
CCI IDS



8 ( D1-F )

IC ICM H01L021-3065  
ICS C23F004-00; H01L021-285; H05H001-46  
CC 76-3 (Electric Phenomena)  
IT **11070-66-9**, Perfluorobutene  
(plasma etching app. for insulator removal)

L71 ANSWER 14 OF 21 HCA COPYRIGHT 2006 ACS on STN  
126:165153 Method for manufacture of silicon on insulator substrate for even thickness of active layer. Komatsu, Juji (Sony Corp., Japan). Jpn. Kokai Tokkyo Koho JP 08330414 A2 **19961213** Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-134118 19950531.

AB The method is carried out by forming an etching mask on the silicon substrate; dry etching by using fluorocarbon under anisotropic etching condition of silicon oxide to form ditch section on the substrate with desired depth; removing the etching mask; burying dielec. film on the ditch section; making plain surface for the dielec. film; covering the plain surface with other substrate; and reducing the thickness of the silicon substrate to become island shape on the substrate.

IT **11070-66-9**, Perfluorobutene  
(method for manuf. of silicon on insulator substrate for even thickness of active layer)

RN 11070-66-9 HCA

CN Butene, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 26447-60-9  
CMF C4 H2 F8  
CCI IDS

H3C-CH2-CH2-CH3

8 ( D1-F )

IC ICM H01L021-762  
 ICS H01L021-3065; H01L027-12  
 CC 76-3 (Electric Phenomena)  
 IT 11070-66-9, Perfluorobutene  
 (method for manuf. of silicon on insulator substrate for even thickness of active layer)

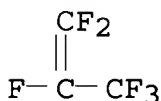
L71 ANSWER 15 OF 21 HCA COPYRIGHT 2006 ACS on STN  
 126:132401 manufacture and applications of heat-resistant electric wires having polybenzimidazole and fluoro rubber. Oonishi, Yasuhiko; Ito, Taku; Tamura, Yoshihiro (Sumitomo Wiring Systems, Japan). Jpn. Kokai Tokkyo Koho JP 08315647 A2 19961129 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-119905 19950518.

AB Heat-resistant elec. wires suitable for aircrafts, elec. heaters, telecommunications, and high voltage cables comprise bare conductive wires **covered by a layer** of polybenzimidazole and a layer of fluoro rubber. A nickel-chrome wire of 0.5 mm diam. was coated 8 times with a varnish comprising 30 parts of polybenzimidazole and 70 parts of dimethylacetamide and baked at 350°. A copolymer of tetrafluoroethylene and hexafluoropropylene then was extruded onto the wire to give a heat-resistant wire of this invention.

IT 116-15-4D, polymers with perfluoroalkyl vinyl ether and tetrafluoroethylene  
 (rubber; manuf. and applications of heat-resistant elec. wires having polybenzimidazole and fluoro rubber)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3-hexafluoro- (9CI) (CA INDEX NAME)



IC ICM H01B007-34  
 ICS C08G073-18; H01B003-30; H01B013-06  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 36, 76  
 IT 116-14-3D, Tetrafluoroethylene, polymers with perfluoroalkyl vinyl ether 116-15-4D, polymers with perfluoroalkyl vinyl ether

and tetrafluoroethylene 9002-84-0, PTFE 25038-71-5,  
 Ethylene-tetrafluoroethylene copolymer 25067-11-2,  
 Hexafluoropropylene-tetrafluoroethylene copolymer 25101-45-5,  
 Chlorotrifluoroethylene-ethylene copolymer  
 (rubber; manuf. and applications of heat-resistant elec. wires  
 having polybenzimidazole and fluoro rubber)

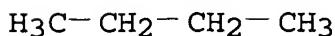
L71 ANSWER 16 OF 21 HCA COPYRIGHT 2006 ACS on STN  
 125:210583 Plasma etching method. Inazawa, Koichiro; Okamoto, Shin;  
 Hayashi, Hisataka; Matsushita, Takaya (Tokyo Electron Limited,  
 Japan). Eur. Pat. Appl. EP 726596 A2 19960814, 16 pp.  
 DESIGNATED STATES: R: DE, FR, GB, IT, NL. (English). CODEN:  
 EPXXDW. APPLICATION: EP 1996-101751 19960207. PRIORITY: JP  
 1995-43532 19950207.

AB A plasma etching app. has a lower electrode for supporting a semiconductor wafer in a processing chamber, an upper electrode opposite the lower electrode, and a power supply for applying RF power across the upper and lower electrodes. A Si nitride layer as an underlayer having a shoulder portion, and a SiO<sub>2</sub> layer covering the Si nitride layer are deposited on the wafer. A contact hole is formed in the SiO<sub>2</sub> layer by etching to expose the shoulder portion of the Si nitride layer. A processing gas contains C<sub>4</sub>F<sub>8</sub> and CO. To set the etching selectivity of SiO<sub>2</sub> relative to Si nitride, the discharge duration of each part of the processing gas is used as a parameter. The progress of dissocn. of C<sub>4</sub>F<sub>8</sub> is controlled by selecting the discharge duration. The discharge duration is detd. by the residence time of each part of the processing gas and the application time of the RF power.

IT 11070-66-9, Perfluorobutene  
 (plasma etching of semiconductor wafers in gases contg.)  
 RN 11070-66-9 HCA  
 CN Butene, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 26447-60-9  
 CMF C4 H2 F8  
 CCI IDS



8 ( D1-F )

IC ICM H01L021-311  
 ICS H01L021-00

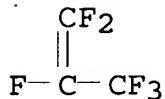
CC 76-11 (Electric Phenomena)  
IT 630-08-0, Carbon monoxide, processes 11070-66-9,  
Perfluorobutene  
(plasma etching of semiconductor wafers in gases contg.)

L71 ANSWER 17 OF 21 HCA COPYRIGHT 2006 ACS on STN  
120:163216 Collisions of fluorocarbon ions at solid surfaces: electronic excitation, surface-induced dissociation and chemical sputtering.  
Ast, T.; Riederer, D. E., Jr.; Miller, S. A.; Morris, M.; Cooks, R. G. (Dep. Chem., Purdue Univ., West Lafayette, IN, 47907, USA).  
Organic Mass Spectrometry, 28(10), 1021-33 (English) 1993.  
CODEN: ORMSBG. ISSN: 0030-493X.

AB Collisions of C<sub>3</sub>F<sub>6</sub>+• at self-assembled hydrocarbon, deuterated hydrocarbon and fluorocarbon surfaces yield fragment ions which are characteristic of both electronic excitation and vibrational excitation. Direct electronic excitation is indicated by loss of F•, which has been shown previously to be diagnostic of this type of excitation process. Electronic excitation is favored by low-energy collisions at the hydrocarbon surface. Even the change to the corresponding deuterated surface produces a large effect in favor of the normal vibrational excitation process. This change in mechanism with the nature of the target shows up as a dramatic isotope effect in the surface-induced dissocn. (SID) mass spectra. The control over the excitation process exhibited by the effective mass of the target is probably exerted through its effect on the relative velocity of the collision partners. The fluorinated surface is more effective than the others in conversion of translational into internal energy and in minimizing ion loss through neutralization and other processes which compete with SID. The fluorinated surfaces yield spectra that are largely free from chem. sputtering, a process which occurs even at ultra-high vacuum for stainless-steel surfaces which are not rigorously cleaned. The internal energy deposition assocd. with chem. sputtering increases with increasing collision energy. Several of the fluorocarbon fragment ions generated from perfluoropropylene have also been examd. at self-assembled monolayer surfaces and they are well behaved in their SID and chem. sputtering reactions. This in contrast to the low efficiency of SID and high sputtering efficiency obsd. in previous studies at uncharacterized multi-layer hydrocarbon-covered surfaces.

IT 116-15-4  
(surface induced dissocn. mass spectra of perfluoropropene mol. ion at stainless steel and self-assembled hydrocarbon, deuterated hydrocarbon and fluorocarbon monolayer surfaces)

RN 116-15-4 HCA  
CN 1-Propene, 1,1,2,3,3-hexafluoro- (9CI) (CA INDEX NAME)



CC 22-8 (Physical Organic Chemistry)

Section cross-reference(s): 66

IT 116-15-4 2917-26-2, 1-Hexadecanethiol

(surface induced dissociation mass spectra of perfluoropropene mol. ion at stainless steel and self-assembled hydrocarbon, deuterated hydrocarbon and fluorocarbon monolayer surfaces)

L71 ANSWER 18 OF 21 HCA COPYRIGHT 2006 ACS on STN

117:215675 Gas generator for airbags in automobiles. Graham, Steven John; Chan, Sek Kwan; Leiper, Graeme Allan (Imperial Chemical Industries PLC, UK; ICI Canada Inc.). Eur. Pat. Appl. EP 505024 A1 19920923, 11 pp. DESIGNATED STATES: R: BE, DE, ES, FR, GB, IT, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1992-300835 19920131. PRIORITY: GB 1991-3372 19910218; GB 1991-16566 19910801.

AB The gas generator comprises a compacted particulate gas-generating propellant charges and a pyrotechnic igniter for the propellant charges. The pyrotechnic igniter is a preformed lamina or film having a portion of its surface covered with a layer of oxidizable material. The propellant is preferably a propellant train which comprises a plurality of compacted propellant disks. The gas generators are used in occupant safety restraint systems in vehicles.

IT 25120-07-4, Perfluoropropylene polymer

(oxidizing polymeric film, in gas generators for airbags)

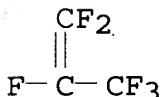
RN 25120-07-4 HCA

CN 1-Propene, 1,1,2,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

CMF C3 F6



IC ICM C06B045-14

ICS C06C009-00; F42C019-08

CC 50-1 (Propellants and Explosives)

IT 9002-84-0, PTFE 9010-75-7, Chlorotrifluoroethylene-vinylidene

fluoride copolymer 9011-17-0, Perfluoropropylene-vinylidene  
 fluoride copolymer 25067-11-2, Perfluoropropylene-  
 tetrafluoroethylene copolymer 25120-07-4,  
 Perfluoropropylene polymer 27275-39-4, Trichloroethylene polymer  
 87465-25-6, Trichloroethylene-vinylidene fluoride copolymer  
 (oxidizing polymeric film, in gas generators for airbags)

L71 ANSWER 19 OF 21 HCA COPYRIGHT 2006 ACS on STN

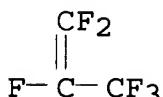
115:52056 Preparation of foamed fluoropolymer electrically-insulating coatings. Ando, Yoshuki; Nakahigashi, Fumikata; Endo, Katsuo; Horii, Koji (Hitachi Cable, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03097746 A2 19910423 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-236701 19890911.

AB The title coatings are prep'd. from tetrafluoroethylene-perfluoroalkyl vinyl ether copolymer (I) with melt flow rate (MFR) <10 g/10 min and 1-100 phr blowing agents selected from halocarbons or halohydrocarbons with b.p. >0° by extrusion and feeding the blowing agents at the half way of the screws. Thus, an elec. conductor was covered with I (MFR 2 g/10 min) using 10 phr Fron 113 (b.p. 47.6°) to give an insulated wire having expansion rate of the covering layer 89%, vs. 63 for using Fron 22 (b.p. -40.8°) instead of Fron 113.

IT 116-15-4D, Hexafluoropropylene, polymers with tetrafluoroethylene and perfluoroalkyl vinyl ether (cellular, using halo(hydro)carbon blowing agents, for wire insulation)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3-hexafluoro- (9CI) (CA INDEX NAME)



IC ICM C08J009-14

ICS B29C047-02; H01B003-44

ICI B29K105-04, B29L031-34, C08L027-12

CC 42-13 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 38, 76

IT 116-14-3D, Tetrafluoroethylene, polymers with perfluoroalkyl vinyl ether 116-15-4D, Hexafluoropropylene, polymers with tetrafluoroethylene and perfluoroalkyl vinyl ether (cellular, using halo(hydro)carbon blowing agents, for wire insulation)

L71 ANSWER 20 OF 21 HCA COPYRIGHT 2006 ACS on STN

89:7200 Polymer-film covered electrodes of stable electrochemical performance. Doblhofer, K.; Noelte, D.; Ulstrup, J.

(Fritz-Haber-Inst., Max-Planck-Ges., Berlin, Fed. Rep. Ger.).

Berichte der Bunsen-Gesellschaft, 82(4), 403-8 (English)

1978. CODEN: BBPCAX. ISSN: 0005-9021.

AB Polymer films deposited on conducting supports by glow-discharge polymn. of acrylonitrile and hexafluoropropylene have good electrode properties due to a high adherence to the substrate, mech. stability during electrolysis, and a higher cond. than other examd. polymer films. Elec., electrochem., and optical methods were used to det. the mech. stability of polymer coatings of electrodes during electrolysis in liq. solns. of inert and redox electrolytes. A correlation was established between the electrochem. properties of the film-coated electrodes and the cond. of metal-film-metal junction using polyacrylonitrile [25014-41-9] films. Films with efficiently high cond. for electrocatalytic uses were prep'd. under suitable polymn. condition for use in electrode systems of fuel cells.

IT 25120-07-4

(electrodes coated with, by glow discharge polymn., electrochem. properties of)

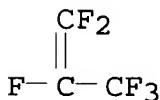
RN 25120-07-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

CMF C3 F6



CC 37-3 (Plastics Fabrication and Uses)

IT 25014-41-9 25120-07-4

(electrodes coated with, by glow discharge polymn., electrochem. properties of)

L71 ANSWER 21 OF 21 HCA COPYRIGHT 2006 ACS on STN

81:128731 Electric capacitor. Heywang, Hermann; Preissinger, Karl H.; Wehnelt, Ulrich; Kobale, Manfred; Ristow, Dietrich (Siemens A.-G.). Ger. Offen. DE 2247260 19740418, 42 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1972-2247260 19720927.

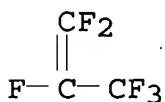
AB A capacitor is comprised of a top and a bottom layer of poly(ethylene terephthalate), polysulfone, polycarbonate or polystyrene-covering 2 metal layers (Al or bronze) which sandwich a partially overlapping layer of a dielec. material, e.g., poly(phenylene oxide) or hexafluoropropylene. The

layers are fused together with 2 wire leads spaced to fit the electrodes. Design profiles are shown.

IT 25120-07-4  
 (dielectrics, in elec. capacitors with high mech. stability)  
 RN 25120-07-4 HCA  
 CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4  
 CMF C3 F6



IC H01G  
 CC 71-3 (Electric Phenomena)  
 IT 9003-07-0 9041-80-9 25120-07-4  
 (dielectrics, in elec. capacitors with high mech. stability)

=> d 173 1-37 ti

- L73 ANSWER 1 OF 37 HCA COPYRIGHT 2006 ACS on STN  
 TI Powdery face washing agent composition
- L73 ANSWER 2 OF 37 HCA COPYRIGHT 2006 ACS on STN  
 TI Method for simultaneous preparation of hexafluoropropylene and peroctafluorocyclobutane
- L73 ANSWER 3 OF 37 HCA COPYRIGHT 2006 ACS on STN  
 TI Method for protecting a channel in a wetted path of a silicon device from corrosion by fluorine
- L73 ANSWER 4 OF 37 HCA COPYRIGHT 2006 ACS on STN  
 TI Fabrication of semiconductor devices in etching for gate contact formation in MOS devices
- L73 ANSWER 5 OF 37 HCA COPYRIGHT 2006 ACS on STN  
 TI Method to reduce line edge roughness during gate etching
- L73 ANSWER 6 OF 37 HCA COPYRIGHT 2006 ACS on STN  
 TI Quantum chemical study on decomposition and polymer deposition in perfluorocarbon plasmas: molecular orbital

calculations of excited states of perfluorocarbons

- L73 ANSWER 7 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Method for coating reactive metal alloy powders and their use in decomposing and immobilizing organic compounds
- L73 ANSWER 8 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Thermal decomposition of low-k pulsed plasma fluorocarbon films
- L73 ANSWER 9 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Plasma-assisted surface modification of polymers for medical devices
- L73 ANSWER 10 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI External microbeam PIGE study of Li and F distribution in PVdF/HFP electrolyte gel polymer for lithium battery application
- L73 ANSWER 11 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Anisotropic etching of silicon by plasma
- L73 ANSWER 12 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Thermal decomposition of low-k pulsed plasma fluorocarbon films
- L73 ANSWER 13 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Method and apparatus for processing perfluorocarbon
- L73 ANSWER 14 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Manufacture of contact-hole in semiconductor element
- L73 ANSWER 15 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Preparation of a substrate having a fluoride-doped conductive coating
- L73 ANSWER 16 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Plasma-structure dependence of the growth mechanism of plasma-polymerized fluorocarbon films with residual radicals
- L73 ANSWER 17 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Fluorinated compounds containing hetero atoms and polymers thereof
- L73 ANSWER 18 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Surface modification by plasma polymerization. 2. Behavior of plasma thin film of perfluoropropene in sulfuric acid solution
- L73 ANSWER 19 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Formation of fluorine-containing carbon films

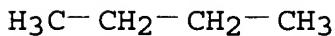
- L73 ANSWER 20 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Method of using photoreceptors with amorphous hydrocarbon protective layer
- L73 ANSWER 21 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI ESR study of plasma-polymerized hexafluoropropene film
- L73 ANSWER 22 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Electrophotographic photosensitive element with surface protective layer
- L73 ANSWER 23 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Optical recording disk containing adiabatic and triggering layers
- L73 ANSWER 24 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Study on plasma polymerization of hexafluoropropene
- L73 ANSWER 25 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Non-silver x-ray recording process
- L73 ANSWER 26 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Electrosyntheses based on reactions of addition of electrochemically generated radicals to ethylene and its derivatives. II. Mechanism of the reaction
- L73 ANSWER 27 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI A survey of factors influencing the stability of organic functional groups attached to platinum electrodes
- L73 ANSWER 28 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Electrolytic cells for production of hexafluoropropene epoxide
- L73 ANSWER 29 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI The preparation of fluorinated high polymers
- L73 ANSWER 30 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Recovery of tetrafluoroethylene and hexafluoropropene
- L73 ANSWER 31 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Polyfluoro-substituted ketones and their preparation from polyfluoro acid fluorides
- L73 ANSWER 32 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Irradiation of polymers
- L73 ANSWER 33 OF 37 HCA COPYRIGHT 2006 ACS on STN

TI Elimination reaction of fluoroolefins with organolithium compounds  
L73 ANSWER 34 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI The addition of free radicals to unsaturated systems. III.  
Chlorotrifluoroethylene  
L73 ANSWER 35 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI The reactions of metallic salts of acids with halogens. III. Some  
reactions of salts of fluorohaloacetates and of perfluoro acids  
L73 ANSWER 36 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Reactions of polyfluoro olefins. VIII. Reactions of  
hexafluorocyclobutene with isoquinoline and 3-methylisoquinoline  
L73 ANSWER 37 OF 37 HCA COPYRIGHT 2006 ACS on STN  
TI Preparation of fluorocarbons by polymerization of olefins

=> d 173 3,6,7,8,9,13,16,19,22,23 cbib abs hitstr hitind

L73 ANSWER 3 OF 37 HCA COPYRIGHT 2006 ACS on STN  
140:416239 Method for protecting a channel in a wetted path of a silicon  
device from corrosion by fluorine. Harris, James M.; Patel, Sapna  
(Redwood Microsystems, Inc., USA). U.S. Pat. Appl. Publ. US  
2004096992 A1 20040520, 14 pp. (English). CODEN: USXXCO.  
APPLICATION: US 2002-298847 20021118.  
AB The invention relates to a method for protecting a channel in a  
wetted path of a silicon device from corrosion by fluorine. A  
wetted path of a MEMS device is **coated** with either an org.  
compd. resistant to attack by at. fluorine or a material capable of  
being passivated by at. fluorine. The device is then exposed to a  
gas that **decomps.** into active fluorine compds. when  
activated by a plasma discharge. One example of such a gas is CF<sub>4</sub>,  
an inert gas that is easier and safer to work with than volatile  
gases like ClF<sub>3</sub>. The gas will passivate the material and corrode  
any exposed silicon. The device is tested in such a manner that any  
unacceptable corrosion of the wetted path will cause the device to  
fail. If the device operates properly, the wetted path is deemed to  
be resistant to corrosion by fluorine or other corrosive compds., as  
applicable.  
IT 11070-66-9, Octafluorobutene  
(protection of channel in a wetted path of silicon MEMS from  
corrosion by fluorine)  
RN 11070-66-9 HCA  
CN Butene, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CRN 26447-60-9  
CMF C4 H2 F8  
CCI IDS



8 ( D1-F )

IC ICM H01L021-00  
INCL 438011000; X43-8 1.8  
CC 76-3 (Electric Phenomena)  
IT 75-73-0, Tetrafluoromethane 7429-90-5, Aluminum, processes  
7440-21-3, Silicon, processes 11070-66-9, Octafluorobutene  
124221-30-3, BCB  
(protection of channel in a wetted path of silicon MEMS from  
corrosion by fluorine)

L73 ANSWER 6 OF 37 HCA COPYRIGHT 2006 ACS on STN  
134:340724 Quantum chemical study on decomposition and polymer  
deposition in perfluorocarbon plasmas: molecular orbital  
calculations of excited states of perfluorocarbons. Nakamura,  
Toshihiro; Motomura, Hideki; Tachibana, Kunihide (Department of  
Electronic Science and Engineering, Kyoto University, Sakyo-ku.  
Kyoto, 606-8501, Japan). Japanese Journal of Applied Physics, Part  
1: Regular Papers, Short Notes & Review Papers, 40(2A), 847-854  
(English) 2001. CODEN: JAPNDE. ISSN: 0021-4922.

Publisher: Japan Society of Applied Physics.  
AB Electronic excited states of various perfluorocarbons were  
investigated using an ab initio MO calcn. The chem. reactions via  
the excited states were also predicted from the antibonding  
characteristics of the MOs concerned and the first-order deriv. of  
the potential surface of the excited state. In marked contrast to  
satd. perfluorocarbons, unsatd. perfluorocarbons can be easily  
excited to the lowest triplet state with a  $\pi-\pi^*$  transition,  
generating biradicals and subsequently leading to polymn. In addn.  
to the conventionally used perfluorocarbons, the possibility of  
two-double-bonded, one-triple-bonded, and arom. perfluorocarbons for  
application to plasma processing was examd. on the basis of quantum  
chem. The use of these novel types of fluorocarbon is predicted to  
be promising for chem. vapor deposition (CVD) of low dielec. const.  
interlayer films and etching with high selectivity of SiO<sub>2</sub>  
to Si and Si<sub>3</sub>N<sub>4</sub> because of the excellent potential shown by them to  
yield a high polymn. and deposition rate.

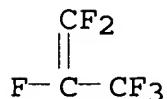
IT 116-15-4, Hexafluoropropene 697-11-0,

## Hexafluorocyclobutene

(MO calcns. of excited states of perfluorocarbons for plasma  
polymn.)

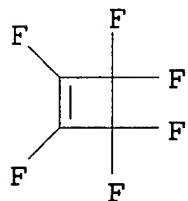
RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3-hexafluoro- (9CI) (CA INDEX NAME)



RN 697-11-0 HCA

CN Cyclobutene, hexafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 22

IT 75-73-0, Tetrafluoromethane 76-16-4, Hexafluoroethane 76-19-7,

Octafluoropropane 115-25-3, Octafluorocyclobutane 116-14-3,

Tetrafluoroethylene, properties 116-15-4,

Hexafluoropropene 357-26-6, Octafluoro-1-butene 360-89-4,

Octafluoro-2-butene 392-56-3, Hexafluorobenzene 559-40-0,

Octafluorocyclopentene 685-63-2, Hexafluoro-1,3-butadiene

692-50-2, Hexafluoro-2-butyne 697-11-0,

Hexafluorocyclobutene 931-91-9, Hexafluorocyclopropane

3109-88-4, Perfluoro-1,3-pentadiene

(MO calcns. of excited states of perfluorocarbons for plasma  
polymn.)

L73 ANSWER 7 OF 37 HCA COPYRIGHT 2006 ACS on STN

133:313167 Method for **coating** reactive metal alloy powders and  
their use in **decomposing** and immobilizing organic  
compounds. Back, Dwight D.; Ramos, Charlie; Meyer, John A.  
(Mainstream Engineering Corporation, USA). U.S. US 6136373 A  
20001024, 5 pp. (English). CODEN: USXXAM. APPLICATION: US  
1998-190224 19981113.

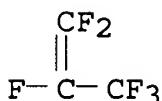
AB Metal powders or granules, comprised of at least 2 alloyed metals  
selected from the group consisting of alk. metals, alkali metals,  
transition metals, metalloids, and rare earth metals are  
**coated** with an org. monomer, oligomer, polymer, or other  
org. compd. The metal powders or granules are in hydride, oxide, or

reduced form. The coated metal powders or granules are used to decomp. and/or immobilize org. compds. contg. at least one hetero atom.

IT 116-15-4, Perfluoropropylene  
 (coating material; method for coating reactive metal alloy hydride powders and their use in decompg. and immobilizing org. compds.)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3-hexafluoro- (9CI) (CA INDEX NAME)



IC ICM B05D007-00

INCL 427214000

CC 60-2 (Waste Treatment and Disposal)

ST calcium nickel hydride decompn immobilization org;  
 magnesium nickel hydride decompn immobilization org;  
 lanthanum nickel hydride decompn immobilization org;  
 aluminum lithium hydride decompn immobilization org; iron  
 manganese titanium hydride decompn immobilization org;  
 methyl methacrylate perfluoropropylene coating metal  
 hydride decompn org; propylene glycol butyl ether  
 coating metal hydride decompn org; chloroform DMMP  
 thioldiethanol degrdn coated reactive metal alloy;  
 coated reactive metal alloy powder decompn  
 immobilization org

IT Chemical warfare agents

(degrdn. of, using coated reactive metal alloy hydride  
 powder)

IT Solvents

(halogenated; degrdn. of, using coated reactive metal  
 alloy hydride powder)

IT 149319-34-6, Calcium nickel hydride

(CaNi<sub>5</sub> hydride; method for coating reactive metal alloy  
 hydride powders and their use in decompg. and  
 immobilizing org. compds.)

IT 67016-28-8, Magnesium nickel hydride

(MgNi<sub>5</sub> hydride; method for coating reactive metal alloy  
 hydride powders and their use in decompg. and  
 immobilizing org. compds.)

IT 65107-42-8, Iron manganese titanium hydride

(TiFe<sub>0.9</sub>Mn<sub>0.1</sub> hydride; method for coating reactive  
 metal alloy hydride powders and their use in decompg.  
 and immobilizing org. compds.)

IT 80-62-6, Methyl methacrylate 116-15-4, Perfluoropropylene

18358-13-9, Methacrylate, uses 29387-86-8, Propylene glycol butyl ether

(coating material; method for coating reactive metal alloy hydride powders and their use in decompg. and immobilizing org. compds.)

IT 67-66-3, Chloroform, processes 111-48-8 756-79-6, Dimethyl methyl phosphonate

(degrdn. of, using coated reactive metal alloy hydride powder)

IT 16853-85-3, Aluminum lithium hydride (LiAlH<sub>4</sub>) 131047-98-8, Lanthanum nickel hydride LaNi<sub>5</sub>H

(method for coating reactive metal alloy hydride powders and their use in decompg. and immobilizing org. compds.)

L73 ANSWER 8 OF 37 HCA COPYRIGHT 2006 ACS on STN

133:31472 Thermal decomposition of low-k pulsed plasma fluorocarbon films. Cruden, Brett; Chu, Karen; Gleason, Karen; Sawin, Herbert (Massachusetts Institute of Technology, Cambridge, MA, 02139, USA). IEEE International Interconnect Technology Conference, Proceedings, San Francisco, May 24-26, 1999, 155-157. Institute of Electrical and Electronics Engineers: New York, N. Y. (English) 1999. CODEN: 68PYA7.

AB Low-k fluorocarbon films have been deposited by pulsed plasma chem. vapor deposition (CVD) and their thermal stabilities have been examd. and at least two mechanisms for thermal decompn. were identified. The most labile decompn route was eliminated by increasing substrate temp. during deposition. Enhanced decompn. due to ex-situ oxygen exposure was obsd.

IT 25120-07-4P, Hexafluoropropylene polymer  
(thermal decompn. of low-k pulsed plasma fluorocarbon films)

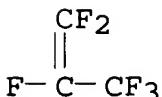
RN 25120-07-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

CMF C3 F6



CC 38-3 (Plastics Fabrication and Uses)

ST fluorocarbon film thermal decompn; pulsed plasma vapor deposition polymn fluorocarbon  
IT Vapor deposition process  
    (plasma, pulsed; thermal decompn. of low-k pulsed plasma fluorocarbon films)  
IT Fluoropolymers, uses  
    (thermal decompn. of low-k pulsed plasma fluorocarbon films)  
IT Polymer degradation  
    (thermal; thermal decompn. of low-k pulsed plasma fluorocarbon films)  
IT 9002-84-0P, Tetrafluoroethylene polymer 25120-07-4P,  
Hexafluoropropylene polymer  
    (thermal decompn. of low-k pulsed plasma fluorocarbon films)

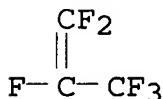
L73 ANSWER 9 OF 37 HCA COPYRIGHT 2006 ACS on STN

133:22466 Plasma-assisted surface modification of polymers for medical devices. Komvopoulos, Kyriakos; Klapperich, Catherine M.; Pruitt, Lisa A.; Kaplan, Stephen L. (The Regents of the University of California, USA). PCT Int. Appl. WO 2000032248 A1 20000608 , 33 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-US28209 19991129. PRIORITY: US 1998-PV110188 19981130.

AB The surface of a high mol. wt. polymer such as high mol. wt. polyethylene is modified in a localized manner by treatment with a plasma gas. The treatment produces a variety of useful results, depending on the gas used and the treatment conditions. One such result is crosslinking of the polymer in a localized manner at the surface to improve the durability of the surface against detrimental processes such as reorientation and alignment of the cryst. lamellae parallel to the contact surface which renders the surface susceptible to disintegration into particles. Another result is the chem. transformation of the surface for purposes such as increasing the hydrophilic or hydrophobic nature of the surface or coupling functional groups to the surface. Coupons of Hostalen GUR 415 UHMWPE were mech. polished on one side to a surface. The polished coupons were then ultrasonically cleaned, degreased, and cleaned with argon plasma at ambient temp., then exposed to various plasma treatments. Following the treatment, the coupons were sealed in gas-permeable bags and sterilized with a

hydrogen peroxide plasma at 400 W for 45 min. The coupons were then sealed in air-tight bags until they were tested for biocompatibility.

- IT 116-15-4, Hexafluoropropylene  
 (plasma-assisted surface modification of polymers for medical devices)
- RN 116-15-4 HCA
- CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



- IC ICM A61L027-00  
 ICS H05H001-00; A61F002-30  
 CC 63-7 (Pharmaceuticals)  
 Section cross-reference(s): 37
- IT 64-19-7, Acetic acid, processes 74-82-8, Methane, processes  
 74-86-2, Acetylene, processes 75-21-8, Ethylene oxide, processes  
 75-73-0, TetrafluoroMethane 79-10-7, Acrylic acid, processes  
**116-15-4, Hexafluoropropylene** 7440-59-7, Helium, processes  
 7664-41-7, Ammonia, processes 7782-44-7, Oxygen, processes  
 (plasma-assisted surface modification of polymers for medical devices)

L73 ANSWER 13 OF 37 HCA COPYRIGHT 2006 ACS on STN  
 131:22704 Method and apparatus for processing perfluorocarbon. Irie, Kazuyoshi; Mori, Toshihiro; Yokoyama, Hisao; Tomiyama, Takayuki; Takano, Toshihide; Tamata, Shin; Kanno, Shuichi (Hitachi, Ltd., Japan; Hitachi Engineering Co., Ltd.; Hitachi Kyowa Engineering Co., Ltd.). Eur. Pat. Appl. EP 916388 A2 19990519, 20 pp.  
 DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1998-309136 19981109. PRIORITY: JP 1997-313089 19971114; JP 1998-145748 19980527.

AB Waste gas contg. a perfluoride compd. (PFC) and SiF<sub>4</sub> is conducted into a silicon remover and contacted with water. A reaction water supplied from a water supplying piping and air supplied from an air supplying piping are mixed with the waste gas exhausted from the silicon remover. The waste gas contg. water, air, and CF<sub>4</sub> is heated at 700° by a heater. The waste gas contg. PFC is conducted to a catalyst layer filled with an alumina group catalyst. The PFC is decompd. to HF and CO<sub>2</sub> by the catalyst. The waste gas contg. HF and CO<sub>2</sub> at a high temp. exhausted from the catalyst layer is cooled in a cooling app. Subsequently, the waste gas is conducted to an acidic gas removing app. to remove HF. In accordance with the invention, the silicon component is

removed from the waste gas before introducing the waste gas into the catalyst layer. Therefore, surface of the catalyst can be utilized effectively, and the decompn. reaction of the perfluoride compd. can be improved.

IT 11070-66-9

(method and app. for processing perfluorocarbon)

RN 11070-66-9 HCA

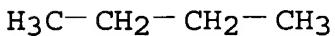
CN Butene, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

CM 1

CRN 26447-60-9

CMF C4 H2 F8

CCI IDS



8 ( D1-F )

IC ICM B01D053-86

CC 59-4 (Air Pollution and Industrial Hygiene)

Section cross-reference(s): 76

IT 75-46-7 76-16-4 11070-66-9

(method and app. for processing perfluorocarbon)

L73 ANSWER 16 OF 37 HCA COPYRIGHT 2006 ACS on STN

123:230539 Plasma-structure dependence of the growth mechanism of plasma-polymerized fluorocarbon films with residual radicals. Horie, M. (Yokohama Research Center, Mitsubishi Chemical Co., Yokohama, 227, Japan). Journal of Vacuum Science & Technology, A: Vacuum, Surfaces, and Films, 13(5), 2490-7 (English) 1995  
CODEN: JVTAD6. ISSN: 0734-2101. Publisher: American Institute of Physics.

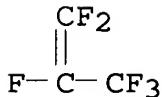
AB The effect of rf discharge power on oxidn. rate in C<sub>3</sub>F<sub>6</sub> plasma-polymd. films under accelerated aging at 65° and 85% relative humidity, was studied to est. the d. of residual radicals in the film. The effect of discharge power on plasma structure was also studied by effluent mass spectrometry. A crit. value of discharge power was identified, at which oxidn. rate and plasma structure are significantly affected. X-ray photoelectron spectra showed that the surface of plasma-polymd. films prep'd. at discharge values below the crit. discharge power exhibited excellent resistance to oxidn., comparable to that of a sputtered film of poly(tetrafluoroethylene). Films prep'd. at discharge values above the crit. power

exhibited a high oxidn. rate and de-fluorination and oxidn. were indicated by an increase in C peaks in the C 1s photoelectron spectra. The secondary ion mass spectrum of the internal region of aged plasma-polymd. films prep'd. above the crit. discharge power contained oxidized CxFy species, while the spectra of aged films prep'd. below the crit. power contained no oxidn.-related peaks. Concerning the mass spectra of the C<sub>3</sub>F<sub>6</sub> plasma, high-mass species over 100 amu, including gas phase polymn. products such as C<sub>4</sub>F<sub>7</sub> and C<sub>4</sub>F<sub>8</sub>, were predominant below the crit. discharge power. Above the crit. power, these high-mass species were rather decompd., and the intensity of the peaks decreased with increasing discharge power. Simultaneously, the intensity of small fragments such as CF, CF<sub>2</sub>, and CF<sub>3</sub> increased with discharge power, causing about 50% of the total pressure increase. The films obtained under such a fragmentation condition contained a higher d. of residual radicals, which caused a deterioration of the resistance to oxidn. of the films.

IT 116-15-4, Perfluoropropene  
(effect of discharge power on oxidn. stability of plasma-polymd.  
fluoropolymer films and on plasma structure)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3-hexafluoro- (9CI) (CA INDEX NAME)



CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 35

ST fluoropolymer plasma polymn film oxidn stability; radical residue fluoropolymer oxidn rate; perfluoropropene plasma stability discharge power

IT Plasma  
(effect of discharge power on oxidn. stability of plasma-polymd.  
fluoropolymer films and on plasma structure)

IT Fluoropolymers  
(effect of discharge power on oxidn. stability of plasma-polymd.  
fluoropolymer films and on plasma structure)

IT Kinetics of oxidation  
Polymer degradation  
(radical-mediated; effect of discharge power on oxidn. stability  
of plasma-polymd. fluoropolymer films and on plasma  
structure)

IT Hydrocarbons, processes  
(fluoro, effect of discharge power on oxidn. stability of  
plasma-polymd. fluoropolymer films and on plasma

structure)

IT 116-15-4, Perfluoropropene

(effect of discharge power on oxidn. stability of plasma-polymerd. fluoropolymer films and on plasma structure)

L73 ANSWER 19 OF 37 HCA COPYRIGHT 2006 ACS on STN

119:277538 Formation of fluorine-containing carbon films.

Nakanishi, Masaji; Tajima, Ichiro; Ishii, Masahiko (Toyota Motor Co Ltd, Japan; Toyoda Chuo Kenkyusho Kk). Jpn. Kokai Tokkyo Koho JP 05163044 A2 19930629 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-331769 19911216.

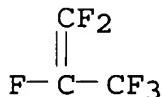
AB The process comprises forming a C film on a substrate, e.g., soda-lime glass, and treating the film with a F-contg. gas or sputtering gas contg. a double bond, e.g., C<sub>3</sub>F<sub>6</sub>. C films contg. more F are obtained efficiently.

IT 116-15-4

(decompn. of, in fluorine-contg. carbon film formation on glass substrates, for water repellency)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



IC ICM C03C017-34

ICS C09K003-18; C23C014-06

CC 57-8 (Ceramics)

ST fluorine carbon film glass; water repellent carbon film

IT Films

(carbon, formation of fluorine-contg., with hexafluoropropylene, on glass substrates, for water repellency)

IT Alkenes, reactions

(fluoro, decompn. of, in fluorine-contg. carbon film formation on glass substrates, for water repellency)

IT Glass, oxide

(soda-lime, substrates, fluorine-contg. carbon film formation on, with hexafluoropropylene, for water repellency)

IT 7782-41-4P, Fluorine, preparation

(carbon films contg., formation of, on glass substrates, with hexafluoropropene, for water repellency)

IT 116-15-4

(decompn. of, in fluorine-contg. carbon film formation on glass substrates, for water repellency)

IT 7732-18-5

(films, carbon, formation of fluorine-contg., with

hexafluoropropylene, on glass substrates, for water repellency)  
 IT 7440-44-0P, Carbon, preparation  
     (films, formation of fluorine-contg., on glass  
     substrates, with hexafluoropropylene, for water repellency)

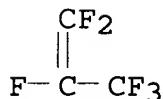
L73 ANSWER 22 OF 37 HCA COPYRIGHT 2006 ACS on STN  
 110:144948 Electrophotographic photosensitive element with surface protective layer. Osawa, Izumi; Doi, Isao; Masaki, Kenji (Minolta Camera Co., Ltd., Japan). Ger. Offen. DE 3820816 A1 19881229, 15 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1988-3820816 19880620. PRIORITY: JP 1987-150895 19870617; JP 1987-150896 19870617; JP 1987-150897 19870617; JP 1987-150898 19870617; JP 1987-150899 19870617.

AB Electrophotog. photosensitive elements, having outstanding electrophotog. characteristics including a long service life because of a high surface hardness, consist of an elec. conductive support, a photoconductive layer consisting of As-Se, or a Se layer and a Se-Te layer, and a surface protective layer from hydrogenated amorphous C contg. a halogen and ≥1 element selected from a chalcogen, O, N, and Group IIIA and IVA elements. Thus, an electrophotog. photoreceptor having a surface protective layer prep'd. by glow discharge decompn. of H<sub>2</sub>, propylene, perfluoropropylene, and H<sub>2</sub>Se was capable of producing >250,000 copies with no loss in image quality.

IT 116-15-4, Perfluoropropylene  
     (decompn. of, by glow discharge in doped hydrogenated amorphous carbon electrophotog. surface protective layer fabrication)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



IC ICM G03G005-14  
     ICS G03G005-082; H01L031-00  
 ICA C23C016-50; C23C014-38  
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 ST surface protective layer electrophotog plate; amorphous hydrogenated carbon electrophotog plate  
 IT Group IIIA elements  
     Group IVA elements  
     Group VIA elements  
     (electrophotog. plate with surface protective layer from hydrogenated amorphous carbon contg.)

- IT Electrophotographic plates  
(selenium-based, with surface protective layer from doped hydrogenated amorphous carbon)
- IT 75-24-1, Trimethylaluminum 75-73-0, Carbon tetrafluoride 106-99-0, Butadiene, uses and miscellaneous 115-07-1, Propylene, uses and miscellaneous 116-15-4, Perfluoropropylene 124-38-9, Carbon dioxide, uses and miscellaneous 7664-41-7, Ammonia, uses and miscellaneous 7782-65-2, Germane 7783-07-5, Hydrogen selenide 7803-51-2, Phosphine 7803-62-5, Silane, uses and miscellaneous 19287-45-7, Diborane  
(decompn. of, by glow discharge in doped hydrogenated amorphous carbon electrophotog. surface protective layer fabrication)
- IT 7440-38-2, Arsenic, properties 13494-80-9, Tellurium, properties (electrophotog. plate with photoconductive layer contg. selenium and, doped hydrogenated amorphous carbon surface protective layer for)
- IT 1333-74-0, Hydrogen, properties  
(electrophotog. plate with surface protective layer contg. doped amorphous carbon and)
- IT 7429-90-5, Aluminum, uses and miscellaneous 7440-21-3, Silicon, uses and miscellaneous 7440-42-8, Boron, uses and miscellaneous 7440-56-4, Germanium, uses and miscellaneous 7704-34-9, Sulfur, uses and miscellaneous 7723-14-0, Phosphorus, uses and miscellaneous 7727-37-9, Nitrogen, uses and miscellaneous 7782-41-4, Fluorine, uses and miscellaneous 7782-44-7, Oxygen, uses and miscellaneous 7782-49-2, Selenium, uses and miscellaneous (electrophotog. plate with surface protective layer from hydrogenated amorphous carbon contg.)
- IT 7440-44-0, Carbon, properties  
(electrophotog. plates with surface protective layer from doped hydrogenated amorphous)

L73 ANSWER 23 OF 37 HCA COPYRIGHT 2006 ACS on STN

110:15964 Optical recording disk containing adiabatic and triggering layers. Gotoh, Akira; Shimizu, Mitsuru; Yamazaki, Katsunobu; Kokai, Fumio (Hitachi Maxell, Ltd., Japan). Eur. Pat. Appl. EP 253401 A1 19880120, 14 pp. DESIGNATED STATES: R: DE, FR. (English). CODEN: EPXXDW. APPLICATION: EP 1987-110343 19870717. PRIORITY: JP 1986-168018 19860718; JP 1986-219748 19860919.

AB An optical recording disk capable of recording information with a high recording sensitivity and a high C/N ratio is comprised of a substrate, an adiabatic layer of a light-permeable material having a thermal deformation temp. higher than that of the disk substrate, a triggering layer of a light-permeable material, and a recording layer, with the material of the triggering layer being melttable or decomposable

at a temp. lower than the m.p. or decompn. temp. of the material of the recording layer. Thus a polycarbonate disk substrate was deposited with a 300-Å SiO<sub>2</sub> adiabatic layer, a 4-Å poly(tetrafluoroethylene) triggering layer, and a TeSe recording layer by sputtering to give an optical recording disk. The prepits and pregrooves on the recording disk substrate were not deformed under repeated scannings of a 1.5 mW laser which was needed in actual use for the reprodn. of recorded information with a good C/N ratio.

IT 25120-07-4

(light-permeable triggering layers from, for optical recording disks)

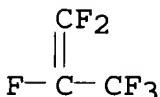
RN 25120-07-4 HCA

CN 1-Propene, 1,1,2,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

CMF C3 F6



IC ICM G11B007-24

ICS B41M005-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST optical recording disk adiabatic layer; fluoropolymer triggering layer optical disk

IT Fluoropolymers

(light-permeable triggering layers from, for optical recording disks)

IT Epoxy resins, uses and miscellaneous

Polycarbonates, uses and miscellaneous

(optical recording disks from, contg. light-permeable adiabatic and triggering layers for improved sensitivity)

IT Recording materials

(optical, contg. light-permeable adiabatic and triggering layers for improved sensitivity, for disks)

IT Polyimides, uses and miscellaneous

(polyamide-, light-permeable adiabatic layers from, for optical recording disks)

IT Polyamides, uses and miscellaneous

(polyimide-, light-permeable adiabatic layers from, for optical recording disks)

- IT Alkenes, polymers  
 (polymers, optical recording disks from, contg. light-permeable adiabatic and triggering **layers** for improved sensitivity)
- IT Tellurium alloy, base  
 (optical disk contg. light-permeable adiabatic and triggering **layers** and recording **layer** of, with improved sensitivity)
- IT 1314-23-4, Zirconium dioxide, uses and miscellaneous 1314-98-3, Zinc sulfide, uses and miscellaneous 7631-86-9, Silicon dioxide, uses and miscellaneous 7783-40-6, Magnesium fluoride 13463-67-7, Titanium dioxide, uses and miscellaneous  
 (light-permeable adiabatic **layers** from, for optical recording disks)
- IT 113443-18-8, Silicon monoxide  
 (light-permeable **films**, for optical recording disks)
- IT 73-40-5, Guanine 1308-80-1, Copper nitride (Cu<sub>3</sub>N) 1314-60-9, Antimony oxide (Sb<sub>2</sub>O<sub>5</sub>) 9002-84-0, Poly(tetrafluoroethylene) 9002-88-4 9003-07-0 9003-53-6 9004-70-0, Nitrocellulose 12023-20-0, Iron nitride (Fe<sub>2</sub>N) 12039-13-3, Titanium sulfide (TiS<sub>2</sub>) 12125-19-8, Tungsten trisulfide 20667-12-3, Silver oxide 25053-22-9 25067-58-7 **25120-07-4** 27495-70-1 27936-85-2 35255-27-7 36427-14-2 51137-34-9 51937-67-8 53339-36-9 60346-90-9 60720-23-2 61469-35-0 85434-92-0 118036-10-5  
 (light-permeable triggering **layers** from, for optical recording disks)
- IT 7782-49-2, Selenium, uses and miscellaneous 13494-80-9, Tellurium, uses and miscellaneous  
 (optical disk contg. light-permeable adiabatic and triggering **layers** and recording **layer** of, with improved sensitivity)
- IT 9011-14-7, Poly(methylmethacrylate)  
 (optical recording disks from, contg. light-permeable adiabatic and triggering **layers** for improved sensitivity)

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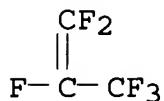
FILE 'HCA'
L76    264577 S DEGRAD?
L77    0 S L8 AND L76
L78    59 S L58 AND L76
L79    0 S L78 AND L9
L80    0 S L78 AND L13
L81    19 S L78 AND L12
L82    4 S L78 AND (L14 OR L15 OR L16)

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L83 1 S L82 NOT (L69 OR L70 OR L71)  
L84 1 S L83 AND 1840-2002/PY,PRY  
L85 15 S L81 NOT (L69 OR L70 OR L71 OR L84)  
L86 12 S L85 AND 1840-2002/PY,PRY

=> d 184 1 cbib abs hitstr hitind

L84 ANSWER 1 OF 1 HCA COPYRIGHT 2006 ACS on STN  
136:218412 **Degradable**, amorphous, fluoro acrylate polymers.  
Moore, George G. I.; Yandrasits, Michael A.; Schulz, Jay F.; Flynn, Richard M. (3M Innovative Properties Company, USA). PCT Int. Appl. WO 2002016306 A2 20020228, 37 pp. DESIGNATED STATES: W:  
AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English).  
CODEN: PIXXD2. APPLICATION: WO 2001-US25626 20010816. PRIORITY: US 2000-PV226235 20000818.  
AB Described is a polymer having at least one acrylate monomer, said monomer including at least one pendant group of the structure OCH(Rf)(Rf''), wherein Rf is a straight chain or branched perfluoroalkyl group with five or less carbon atoms, and Rf'' is a branched perfluoroalkyl group with three to five carbon atoms; and a method of reducing the surface tension of a liq. by adding a compd. of the invention to the liq. Also described is a compn. that includes a polymer of the invention in an aq. soln. or dispersion; a method of treating a substrate to render it oil- and/or water-repellent that includes treating a substrate with a compn. of the invention; a method of coating an elec. device that includes applying a compn. of the invention; a method of coating optical fibers that includes applying a compn. of the invention; and an article that includes a substrate treated with a compn. of the invention. A typical polymer was manufd. by radical polymn. of CH<sub>2</sub>:CHCO<sub>2</sub>CH(CF<sub>3</sub>)CF(CF<sub>3</sub>)<sub>2</sub>.  
IT 116-15-4, Hexafluoropropylene  
(monomer precursor; **degradable**, amorphous, fluoro acrylate polymers for oil- and waterproof coatings)  
RN 116-15-4 HCA  
CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



- IC ICM C07C069-00  
 CC 42-10 (Coatings, Inks, and Related Products)  
 ST degradable amorphous fluoro acrylate polymer oilproof  
 waterproof coating; fluoropentyl acrylate polymer manuf  
 IT Fluoropolymers, uses  
     (acrylic; degradable, amorphous, fluoro acrylate  
     polymers for oil- and waterproof coatings)  
 IT Coating materials  
     (oil-resistant; degradable, amorphous, fluoro acrylate  
     polymers for oil- and waterproof coatings)  
 IT Electric apparatus  
     Optical fibers  
         (substrate; degradable, amorphous, fluoro acrylate  
         polymers for oil- and waterproof coatings)  
 IT Coating materials  
     (water-resistant; degradable, amorphous, fluoro  
     acrylate polymers for oil- and waterproof coatings)  
 IT 402513-52-4P  
     (byproduct; degradable, amorphous, fluoro acrylate  
     polymers for oil- and waterproof coatings)  
 IT 28825-19-6P 402513-31-9P, 1,1,1,3,4,4,4-Heptafluoro-3-  
 trifluoromethyl-2-butyl acrylate homopolymer 402513-36-4P  
 402513-39-7P 402513-43-3P 402513-47-7P 402513-57-9P  
 402513-59-1P 402513-61-5P 402513-63-7P 402563-56-8P  
 402563-57-9P  
     (degradable, amorphous, fluoro acrylate polymers for  
     oil- and waterproof coatings)  
 IT 813-45-6P 918-49-0P, 2,4-Bis(trifluoromethyl)-1,1,1,2,4,5,5,5-  
 octafluoro-3-pentanol 10250-45-0P 87382-98-7P,  
 1,1,1,3,4,4,4-Heptafluoro-3-trifluoromethyl-2-butanol 87383-00-4P  
 402513-49-9P 402513-53-5P, 4H-Perfluoro-2,6-dimethyl-4-heptanol  
     (monomer precursor; degradable, amorphous, fluoro  
     acrylate polymers for oil- and waterproof coatings)  
 IT 108-82-7, 2,6-Dimethyl-4-heptanol 116-15-4,  
 Hexafluoropropylene 422-61-7, Perfluoropropionyl fluoride  
 756-12-7, Heptafluoroisopropyl trifluoromethyl ketone 756-13-8,  
 Heptafluoroisopropyl pentafluoroethyl ketone 813-44-5,  
 Perfluoro(diisopropyl ketone)  
     (monomer precursor; degradable, amorphous, fluoro  
     acrylate polymers for oil- and waterproof coatings)  
 IT 402513-30-8P, 1,1,1,3,4,4,4-Heptafluoro-3-trifluoromethyl-2-butyl  
 acrylate 402513-34-2P 402513-38-6P 402513-42-2P 402513-46-6P

(monomer; **degradable**, amorphous, fluoro acrylate polymers for oil- and waterproof coatings)

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- L86 ANSWER 1 OF 12 HCA COPYRIGHT 2006 ACS on STN  
TI Damage-free contact etching using balanced electron drift magnetron etcher
- L86 ANSWER 2 OF 12 HCA COPYRIGHT 2006 ACS on STN  
TI Studies on **degradation** mechanisms of tape lubricants in a high vacuum environment
- L86 ANSWER 3 OF 12 HCA COPYRIGHT 2006 ACS on STN  
TI Method for selective dielectric **film** etching in pre-metal deposition during fabrication of closely spaced microelectronic structures with attenuated **degradation**
- L86 ANSWER 4 OF 12 HCA COPYRIGHT 2006 ACS on STN  
TI Semiconductor contact resistance reduction by fluorocarbon polymer deposition removal and plasma etching selectivity enhancement
- L86 ANSWER 5 OF 12 HCA COPYRIGHT 2006 ACS on STN  
TI Thermal decomposition of low-k pulsed plasma fluorocarbon **films**
- L86 ANSWER 6 OF 12 HCA COPYRIGHT 2006 ACS on STN  
TI Thermal decomposition of low-k pulsed plasma fluorocarbon **films**
- L86 ANSWER 7 OF 12 HCA COPYRIGHT 2006 ACS on STN  
TI Hexafluoropropylene plasmas: polymerization rate-reaction parameter relationships
- L86 ANSWER 8 OF 12 HCA COPYRIGHT 2006 ACS on STN  
TI Plasma-structure dependence of the growth mechanism of plasma-polymerized fluorocarbon **films** with residual radicals
- L86 ANSWER 9 OF 12 HCA COPYRIGHT 2006 ACS on STN  
TI Study on plasma polymerization of hexafluoropropene
- L86 ANSWER 10 OF 12 HCA COPYRIGHT 2006 ACS on STN  
TI Spectrophotometric analysis of some organic fluorides in pyrolysis products of commercial poly(fluoroethylenepropylene) **film**

L86 ANSWER 11 OF 12 HCA COPYRIGHT 2006 ACS on STN  
 TI Chemistry of radiation cross-linking of branched fluorocarbon resins

L86 ANSWER 12 OF 12 HCA COPYRIGHT 2006 ACS on STN  
 TI Reactions of polyfluoro olefins. VIII. Reactions of hexafluorocyclobutene with isoquinoline and 3-methylisoquinoline

=> d 186 5,8 cbib abs hitstr hitind

L86 ANSWER 5 OF 12 HCA COPYRIGHT 2006 ACS on STN

133:31472 Thermal decomposition of low-k pulsed plasma fluorocarbon films. Cruden, Brett; Chu, Karen; Gleason, Karen; Sawin, Herbert (Massachusetts Institute of Technology, Cambridge, MA, 02139, USA). IEEE International Interconnect Technology Conference, Proceedings, San Francisco, May 24-26, 1999, 155-157. Institute of Electrical and Electronics Engineers: New York, N. Y. (English) 1999. CODEN: 68PYA7.

AB Low-k fluorocarbon films have been deposited by pulsed plasma chem. vapor deposition (CVD) and their thermal stabilities have been examd. and at least two mechanisms for thermal decompn. were identified. The most labile decompn. route was eliminated by increasing substrate temp. during deposition. Enhanced decompn. due to ex-situ oxygen exposure was obsd.

IT 25120-07-4P, Hexafluoropropylene polymer (thermal decompn. of low-k pulsed plasma fluorocarbon films)

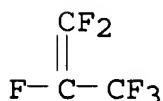
RN 25120-07-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116-15-4

CMF C3 F6



CC 38-3 (Plastics Fabrication and Uses)

ST fluorocarbon film thermal decompn; pulsed plasma vapor deposition polymn fluorocarbon

IT Vapor deposition process (plasma, pulsed; thermal decompn. of low-k pulsed plasma fluorocarbon films)

- IT Fluoropolymers, uses  
(thermal decompn. of low-k pulsed plasma fluorocarbon films)
- IT Polymer degradation  
(thermal; thermal decompn. of low-k pulsed plasma fluorocarbon films)
- IT 9002-84-0P, Tetrafluoroethylene polymer 25120-07-4P,  
Hexafluoropropylene polymer  
(thermal decompn. of low-k pulsed plasma fluorocarbon films)

L86 ANSWER 8 OF 12 HCA COPYRIGHT 2006 ACS on STN

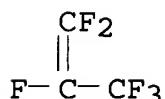
123:230539 Plasma-structure dependence of the growth mechanism of plasma-polymerized fluorocarbon films with residual radicals. Horie, M. (Yokohama Research Center, Mitsubishi Chemical Co., Yokohama, 227, Japan). Journal of Vacuum Science & Technology, A: Vacuum, Surfaces, and Films, 13(5), 2490-7 (English) 1995  
. CODEN: JVTAD6. ISSN: 0734-2101. Publisher: American Institute of Physics.

AB The effect of rf discharge power on oxidn. rate in C<sub>3</sub>F<sub>6</sub> plasma-polymd. films under accelerated aging at 65° and 85% relative humidity, was studied to est. the d. of residual radicals in the film. The effect of discharge power on plasma structure was also studied by effluent mass spectrometry. A crit. value of discharge power was identified, at which oxidn. rate and plasma structure are significantly affected. X-ray photoelectron spectra showed that the surface of plasma-polymd. films prep'd. at discharge values below the crit. discharge power exhibited excellent resistance to oxidn., comparable to that of a sputtered film of poly(tetrafluoroethylene).  
Films prep'd. at discharge values above the crit. power exhibited a high oxidn. rate and de-fluorination and oxidn. were indicated by an increase in C peaks in the C 1s photoelectron spectra. The secondary ion mass spectrum of the internal region of aged plasma-polymd. films prep'd. above the crit. discharge power contained oxidized CxFy species, while the spectra of aged films prep'd. below the crit. power contained no oxidn.-related peaks. Concerning the mass spectra of the C<sub>3</sub>F<sub>6</sub> plasma, high-mass species over 100 amu, including gas phase polymn. products such as C<sub>4</sub>F<sub>7</sub> and C<sub>4</sub>F<sub>8</sub>, were predominant below the crit. discharge power. Above the crit. power, these high-mass species were rather decompd., and the intensity of the peaks decreased with increasing discharge power. Simultaneously, the intensity of small fragments such as CF, CF<sub>2</sub>, and CF<sub>3</sub> increased with discharge power, causing about 50% of the total pressure increase. The films obtained under such a fragmentation condition contained a higher d. of residual radicals, which caused a deterioration of the resistance to oxidn. of the films.

IT 116-15-4, Perfluoropropene  
(effect of discharge power on oxidn. stability of plasma-polymd.  
fluoropolymer films and on plasma structure)

RN 116-15-4 HCA

CN 1-Propene, 1,1,2,3,3,3-hexafluoro- (9CI) (CA INDEX NAME)



CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 35

ST fluoropolymer plasma polymn film oxidn stability; radical  
residue fluoropolymer oxidn rate; perfluoropropene plasma stability  
discharge power

IT Plasma  
(effect of discharge power on oxidn. stability of plasma-polymd.  
fluoropolymer films and on plasma structure)

IT Fluoropolymers  
(effect of discharge power on oxidn. stability of plasma-polymd.  
fluoropolymer films and on plasma structure)

IT Kinetics of oxidation

Polymer degradation  
(radical-mediated; effect of discharge power on oxidn. stability  
of plasma-polymd. fluoropolymer films and on plasma  
structure)

IT Hydrocarbons, processes  
(fluoro, effect of discharge power on oxidn. stability of  
plasma-polymd. fluoropolymer films and on plasma  
structure)

IT 116-15-4, Perfluoropropene  
(effect of discharge power on oxidn. stability of plasma-polymd.  
fluoropolymer films and on plasma structure)